FEB 15 1926

Illinois Medical Journal

OWNED AND PUBLISHED BY THE MEDICAL PROFESSION OF ILLINOIS

Office Of Publication 155 N. Ridgeland Ave., Oak Park, Illinois

Vol. XLIX, No. 2 OAK PARK, ILL., FEBRUARY, 1926 $3.00 a Year

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Entered as Second-Class Matter July 21, 1919, at the Post Office, Oak Park, Illinois, under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1102, Act of October 3, 1917, authorized July 15, 1918.

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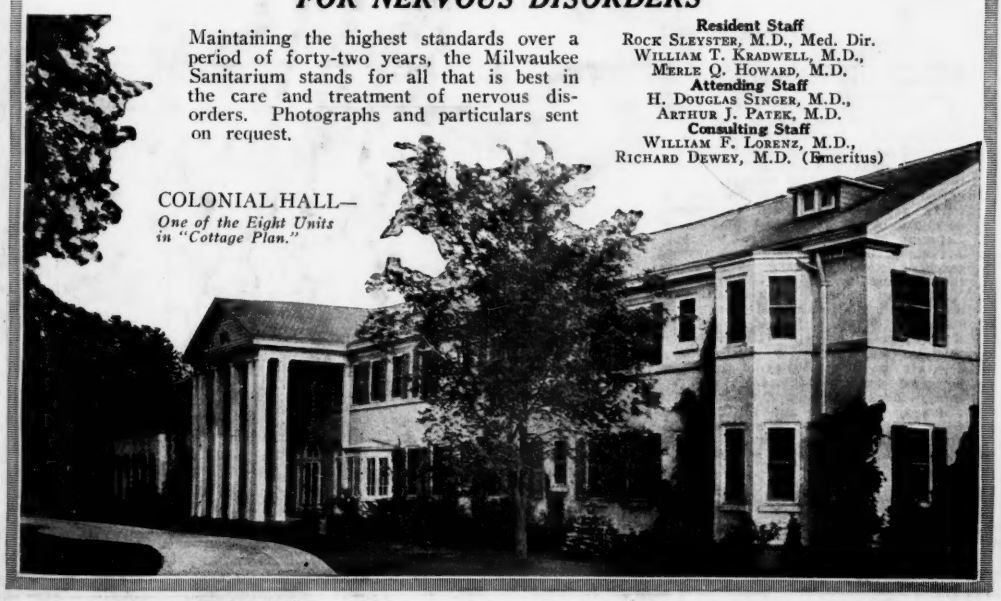

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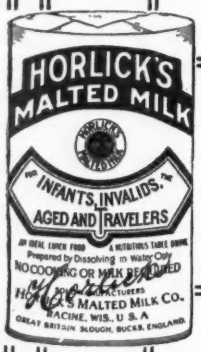
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Physician-in-Charge
FREDERICK W. GESSNER, Asst. Physician

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF

THE ILLINOIS STATE MEDICAL SOCIETY

Vol. XLIX — OAK PARK, ILL., FEBRUARY, 1926 — No. 2

ILLINOIS MEDICAL JOURNAL

Published monthly by the Illinois State Medical Society under the direction of the Publication Committee of the Council.

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Membership correspondence to Dr. Harold M. Camp, Monmouth, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 7626 Bosworth Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

Subscription price of this Journal to persons not members of the Illinois State Medical Society is $3.00 per year, in advance, postage prepaid, for the United States, Cuba, Porto Rico, Philippine Islands, Hawaiian Islands and Mexico. $3.50 per year for all foreign countries included in the postal union. Canada, $3.25. Single current copies, 35 cents. Back numbers, after three months from date of publication, 50 cents.

Editorial

ILLINOIS STATE MEDICAL SOCIETY ANNOUNCEMENT

The 76th Annual Meeting of the Illinois State Medical Society will be held in Champaign-Urbana May 18, 19 and 20, 1926.

In anticipation of one of the largest and best meetings in the history of the Society, the Committees on Arrangements have inaugurated extensive preparations for the meetings and entertainment of the Society.

The Committee on Hotel Accommodations urge that reservations for the meeting be made early, and direct with the management of the hotels. In case further information is found necessary the hotel committee is at the service of the membership. This committee, whose chairman is Dr. James S. Mason, 129 W. Elm St., Urbana, Ill., is in touch with a system that has control of a large number of desirable rooms that can be drawn upon in case the capacity of the hotels in the community is exhausted.

Below will be found a list of the principal hotels of the twin community of Champaign-Urbana:

HOTELS

Inman Hotel, Champaign, 150 Rooms (Headquarters for the Society).

Single without bath, $1.75 and $2.00; double, $3.50.

Single with bath, $2.50, $3.00 and $3.25; double, $4.50, $5.50 and $6.00.

Urbana-Lincoln Hotel, Urbana, Ill., 100 Rooms.

Single without bath, $1.75 and $2.00; double, $3.00 to $3.50.

Single with bath, $2.50 to $3.50; double, $4.00 to $6.00.

Beardsley Hotel, Champaign, Ill., 100 Rooms.

Single without bath, $1.50; double, $2.50.

Single with bath, $2.50; double, $4.50.

Cots without bath, $1.00.

Cots with bath, $1.50.

Hamilton Hotel, Champaign, Ill., 65 Beds.

Single without bath, $1.50; double, $3.00.
Single with bath, $2.50; double, $4.00.
Cots without bath, $1.00.
Cots with bath, $1.50.

McClurg Hotel, Urbana, Ill., 25 Beds.
Single without bath, $1.50; double, $2.50.
Single with bath, $2.50; double, $3.50 and $4.00.

(Signed) Chairman Hotel Committee.

SEND ON PAPERS FOR THE SURGICAL SECTION AT THE STATE MEETING

Surgeons wishing to read papers at the forthcoming meeting of the Illinois State Medical Society at Champaign May 18, 19 and 20th, 1926, kindly communicate with the secretary of the section on surgery, Everett P. Coleman, Canton, Illinois.

PHILIP H. KREUSCHER, Chairman,
30 N. Michigan Ave., Chicago.

SEND ON PAPERS FOR THE MEDICAL SECTION AT THE STATE MEETING

Doctors wishing to read papers in the section on Medicine at the forthcoming meeting of the Illinois State Medical Society at Champaign, May 18, 19, 20th, 1926, kindly communicate with the secretary, LeRoy H. Sloan, 1180 E. 63d St., Chicago.

B. U. MCCLANAHAN, Chairman,
Galesburg, Ill.

INTER-STATE POST GRADUATE FOREIGN CLINIC ASSEMBLIES, 1926

The 1926 foreign clinic assemblies given under the direction of the Inter-State Post Graduate Assembly of North America will cover a territory including the chief clinic cities of Italy, Switzerland, Germany, Austria, Czecho-Slovakia, Holland and Belgium.

The physicians are going abroad as the result of invitations extended, through this Association, by the leading medical universities and institutions of the countries to be visited to the medical profession of North America.

The members of the party will sail from New York on April 28th, a few days after the meeting of the American Medical Association at Dallas, Texas, thus, giving the physicians of the party plenty of time to attend this meeting.

The large first-class cruising steamer, the "Araguaya" of the Royal Mail Steam Packet Line has been chartered to take the physicians abroad. The party will land at Cherbourg and will go at once to Paris where the clinic assemblies start.

Dr. Carl Beck of Chicago, the general secretary for the foreign assemblies, is now in Europe completing the clinic arrangements for the assemblies. The clinic cities to be visited are as follows: Paris, Rome, Florence, Padua, Milan, Berne, Zurich, Munich, Vienna, Prague, Berlin, Amsterdam, The Hague, Utrecht, Leyden and Brussels. There will be extension assemblies held in all other principal medical centers of Europe following the main assemblies.

It is of interest to note that a large per cent of the distinguished teachers, who will instruct the assemblies, speak the English language. However, there will be a director chosen from the teaching staff in each of the clinics, who will be able to speak good English in case the chiefs do not. It will be the duty of this director to present the history cases and to answer questions as an interpreter. This is one of the reasons why Dr. Beck is now in Europe.

The assemblies are open to members of the profession who are in good standing in their State or Provincial Society with no restriction to territory. This invitation is understood to be extended to the entire medical profession of North America.

Admittance to the clinics and privileges of the tour will be protected by the issuing of an admittance ticket or card. This rule will be strictly enforced in order to protect the Association in its membership requirements, which is, that a physician must be in good standing in his State or Provincial Society. We will not be responsible or admit physicians to privileges unless they are members of the group.

The members of the party will be limited to a number that can be accommodated comfortably in both the clinics and hotels. After careful consideration and consultation with the transportation department and the foreign clinics, this number has been fixed at five hundred, which includes members of the physicians' families. Necessarily this will limit the number of physicians to around three hundred.

Physicians may return home on three separate sailings during the main assemblies. First, at the end of the visit to Italy and Switzerland by

way of Cherbourg; second, at the end of the visit to Holland from Rotterdam and third, at the end of the assembly in Brussels from the port of Antwerp.

It is necessary in order to hold space for the assemblies to send to the office of the Managing-Director, W. B. Peck, Freeport, Illinois, the sum of $65.00 per person. If for any reason the applicant for space decides that he cannot attend the assemblies the money will be refunded immediately, if this demand is made as early as six weeks before sailing time. A booklet of information pertaining to the assemblies and prices for same may be secured free of charge by writing the Managing-Director's office.

Ladies Entertainment: Besides the extensive sight-seeing and travel features, arrangements are being made for a ladies' entertainment committee in each of the clinic cities. The committees will be composed of the wives of the clinicians and prominent citizens.

In offering the foreign clinic assemblies this Association has the hearty co-operation and assistance of the most distinguished teachers and clinicians in both North America and Europe. The organization in its endeavors hopes to combine with its success in post-graduate work a corresponding advancement in International good fellowship among the members of the medical profession of the different countries of the world.

The officers of the assemblies are:

Dr. Charles H. Mayo, Chief Executive and General Chairman, Rochester, Minnesota.

Dr. Carl Beck, General Secretary, Chicago, Illinois.

Dr. William B. Peck, Managing-Director, Freeport, Illinois.

Mr. Reeve Chipman, Manager of Transportation, Boston, Mass.

A second section of the assemblies for a limited number will be conducted during the summer months for those who are unable to take advantage of the April sailing. The members of the party will leave New York S. S. "Pittsburgh" on June 19th, return sailing, August 13th from Antwerp S. S. "Zeeland."

BILL TO EXTEND MATERNITY ACT BEFORE CONGRESS. BRING PRESSURE AT ONCE ON YOUR CONGRESSMAN TO REJECT

Bill to extend maternity act for two years sprung January 13 in House of Representatives. Hearing to be rushed outrageously through Interstate and Foreign Commerce Committee of House tomorrow, January 14. Urge you to bring all possible pressure at once on your Congressman to reject.

WHY ILLINOIS SHOULD NOT COOPERATE WITH THE SHEPPARD-TOWNER ACT

Illinois should refuse cooperation with the Sheppard-Towner Maternity Act from patriotic, moral, hygienic, public welfare, and financial motives.

That is to say, Illinois should refuse to cooperate with the Sheppard-Towner Maternity Act BECAUSE

1. An insidious attack upon the government of the republic and a potent malefactor against the bodily health of the citizens.

2. Socialistic rather than democratic; a political switchback rather than a child preservative.

3. The care of the mother and the child is a local—even a personal—not a federal function.

4. The encroachment of the state upon the personal relations between the patient and his physician is a real national menace.

5. That it is the ultimate and worst form of paternalism tending to hinder medical progress and inhibiting individual initiative.

6. The Sheppard-Towner Act fails to give food, shelter, clothing, medicine or medical care for any mother or any child.

7. The Act does put upon the taxpayers and bounty list, herds of investigators, inspectors, record keepers, red-tape winders, and political heelers of every creed, sex and color.

8. Under the provision of the Sheppard-Towner Act the Federal government controls the expenditure of state appropriations.

9. Maternity education should be directed and supervised only by physicians.

10. A fecund breeder of more and higher taxes. The government "gifts" such as "Federal aid" are procurable for the people only by taxes from the people, and

11. The principle of federal state aid as a

means of financing public health work is an unsound financial policy.

12. Morally and legally, the proposition is indefensible. The Federal Government has no more right to collect money from New York, Illinois and Massachusetts and divide it among Montana, Wyoming and New Mexico than it has the right to take money from Jones and give it to Smith. The Federal government collects more money from a millionaire than from a laborer for the Federal government, but it has no more legal or moral right to make Illinois "divide up" with Texas or Alabama than it has the right to make Rockefeller "divide up" with Eugene V. Debs.

13. No such emergency exists as has been claimed for justification of the maternity act and there are no reliable statistics by which it can be proved that the United States stands seventeenth in the maternal death rate.

14. The means provided in the act will not afford an effective remedy for alleged existing conditions.

15. The distribution of federal funds to state health organizations will inevitably lead to the domination and dictation of state activities by the Children's Bureau.

16. The ability of the Children's Bureau to dictate and largely control the appointment of the head of the Children's Bureau in each state as well as all of the public health nurses, district superintendents and others, will result in the organization of a large body of salaried employes appointed and largely paid by a federal bureau, yet working under a state department of which they are to a large extent, independent. Such a condition will produce friction and confusion in public health work, and will make possible the development of a political machine under the control of the Children's Bureau.

17. The problem of reducing maternal and infant death rates is largely a medical problem. Whenever it pleases the Sheppard-Towner Maternity act authorities can work entirely under lay direction and independent of medical control.

18. With the exception of those activities which are clearly national in character, such as quarantine and the regulation of inter-state commerce and the like, public health work is a function of the state and local governments and should be paid for out of state and local funds and directed by state and local officials. The furnishing of instruction or care to mothers or any other persons needing such instruction is just as much a function of local government as it is the providing of food and clothes for the is the providing of food and clothes for the destitute. The assumption and exercise of these functions by the Federal government is an invasion of the legitimate activities of the state.

19. Further, it is: A destroyer of individual rights and a developer of community supervision.

20. A conferrer of a million salaried jobs for political incumbents but not a dispenser of either clothing, shelter, food, medicine or medical care for any mother or any child.

21. A measure that will pay a retinue of politicians to disarrange the domesticity of a citizenry while the political wage is levied high-handedly out of the pockets of those whom the measure assumes to serve.

22. A masterpiece of false witness between politicians and the people, both present and in the generations yet to come.

23. An invader of private morality and an abaser of humanity to the level of animal and poultry bureaus.

24. A socialistic crime committed in the name of education.

25. A lever increasing the powers lodged now in the Department of Labor, as by this bill the Children's Bureau of that portfolio becomes the official arbiter of the vital domesticity of the United States. Per sequence, the temple of every woman's body becomes a political taxtable and an asset to ward heelers. Upon a woman's fecundity or lack of it will hinge the bread and butter jobs of a bureaucratic regiment.

26. An inductor of the practice of obstetrics to the rule of thumb of political chicanery and machine manipulation.

27. A fundamental process towards the eventual establishment of a permanent lay dictation of the practice of medical and surgical science.

28. A tax bearing boomerang, rending the citizenry by community, state, county and federal levies for which will be received the octopus burden of a pack of strawbosses that will help no one and hurt many.

29. The principle of federal state aid as a

means of financing public health work is an unsound financial policy.

30. Talk and taxes—that's the Sheppard-Towner Act.

AMERICA IS BECOMING THE CENTER OF THE WORLD

A distinct surprise to American physicians is the exclusion of American doctors from clinics at the University of Berlin, Germany.

If this action is in the nature of reprisals by which the German University hopes to raise the boycott against German representatives at international scientific associations, then the German mind has gone wrong again. Berlin never did attract any great number of American doctors of medicine to its clinics. Vienna was always the clinical magnet, and still is as is also Prague. And Vienna has done all she could to maintain pre-war relations. The same may be said of Switzerland, another great center of medical science. These ideas are held by other nations than America.

While the subject is up for discussion let it be remembered that America is becoming the medical center of the world and is contributing as much to science as any other nation and far more than Germany. Medical hardship will obtain when the United States, forgetting the tenets of humanity under the dictates of prejudice closes the doors of her great medical clinics to earnest students from any country.

CLASS LEGISLATION A HINDRANCE TO MEDICAL EDUCATION

Class legislation where medical students are concerned has taken on new impetus at Yale University. It is connoted from the daily press that one of the features of the entrance requirements at Yale Medical School this autumn was that "no student should be accepted whose financial condition might require him to do outside work, interfering with his studies, in order to support himself through the Medical School."

If the danger thus created were to be restricted to Yale Medical school pessimism would be uncalled for. However if the experiment there is successful, other schools may be expected to follow suit. There will exist then a class of aristocrats dispensing the most democratic of all possessions,—health.

Canvass of famous physicians and of men who have contributed the most greatly to the health and public welfare of the nations would doubtless reveal that as much if not more of skilled service had come from men and women born without the proverbial golden spoon in their mouths.

While it is a desideratum that a student should be free from financial responsibility during student days, experience does not show that temporary poverty has an undesirable effect upon professional skill. Upon the health and strength of the overworked student, yes; in later life, this double burden may show.

According to the ruling at Yale a student without wealthy parents or borrowing capacities to the tune of from $4,000 to $10,000 must either go to some other school or else give over the idea of becoming a physician. He is, as it were, damned before he is born.

One thing is certain,—such a ruling will not be made in the fly-by night colleges, in the communities of charlatans and the quarries of quacks. Many a live man would be dead and in his grave had he depended upon medical care and surveillance only from those physicians who had independent means in their college days, or who got through medical school without assuming any portion of their own support.

If a man with the healing complex, those men from whom the best physicians are made—finds the doors of the best medical colleges closed to him because he is not independent financially, then indeed may the charge "Mercenary" be laid at the door of the practice of medicine. And let it be reiterated that quackery will take a man in under any system. He may pay as he enters or as he goes out or afterwards.

Some of the executives of medical education should consider seriously this problem before the justifiable stigma "Measured by Mammon" is pinned ineradicably upon the better institutions of the country.

AN ATTEMPT TO CORRECT TENDENCY TO STATE MEDICINE

A worthy down state physician writes to ask if the plan for co-operation with the Illinois State Federation of Woman's clubs, State Dental Society, State Department of Health, etc., is not an attempt to promote State Medicine? The

committee having this matter in charge hope to bring about the opposite state of affairs.

The plan of cooperation with the Illinois State Federation of Woman's Clubs, the Illinois State Dental Society, and the State Department of Health for the examination of the pre-school child was designed to hold back state medicine by putting into the hands of the component medical societies the functions which in certain other states and countries have tended to become official.

From the routine of instructions sent out by the Lay Educational Committee to district officers note the following:

1. That every member of the Federation is urged to accept the responsibility of getting one pre-school child to the *family* physician and dentist.

2. That the larger emphasis in the program is placed upon its educational aspects; that each woman is urged to look to her own household and to exert her influence upon families in her own station of life—not to make it her first thought to look after the other woman's child.

3. That all arrangements for charity and for field service are (a) made contingent upon the organization's performing its full duty in the educational phase of the matter; (b) taken completely out of the hands of the lay group and made a matter of arrangement between state and county medical and dental societies, using the departments of health as clearing houses for service.

This arrangement was considered by the Committee to be safe because of the fact that in many years' experience both the Committee and the Council reported no group of medical men who had refused charity service where warranted, but that they have resented the effort of lay organizations to dictate what warranted charity was.

The committee is not expecting to accomplish reformations of vast import through this campaign, but, frankly, if nothing more is done this first year than to impress upon the majority of lay women belonging to the Illinois State Federation of Woman's Clubs that fact that the pre-school child must be thoroughly examined by the *family* physician at least once a year, we shall feel that this is a long step in the direction of proper health education.

THE NEED OF MORE TRAINED PRACTITIONERS

Dr. Ochsner of Chicago in Science, December 25, 1925, says: "That the medical education of today is not as good as it was twenty-five years ago, and one fault lies that the personnels of our medical schools cannot teach medicine because they do not know medicine. "Who" he asks, "would want to learn to fly from an instructor who had never flown himself? The really efficient general practitioner needs to know a thousand and one things that make for efficiency, that give comfort and relief to his patient, which the non-medical teachers and specialists cannot possibly teach because they do not know these important things themselves."

Furthermore Dr. Ochsner believes that the American people are going to have medical attention when they need it, and if, by failing to keep up the supply of competent physicians the medical profession cannot furnish it the bars will be more readily let down to permit practice by the irregular cults.

"What we need," according to Dr. Ochsner, "is not more research workers to discover new facts but a few great medical minds who can take the great number of facts already known, separate the non-essential from the essential, arrange and classify them properly so that the later can be more easily gotten hold of by the student. What we need even more than this is a large number of medical teachers who can and will teach medical students the essentials of medicine in the shortest possible time without cluttering up their minds with a lot of non-essentials. . . ."

THE UPLIFTER

Welfare Movement Has Become One of the Worst Pests in America Today

The *Journal Lancet,* current issue, presents an abstract on the uplifter from the August number of the *American Mercury,* as follows:

The Uplifter

A very frank and very readable article appears in the August number of the *American Mercury,* written by Bishop Charles Fiske, of the Methodist Church, entitled "Bringing in the Millennium," and the writer can do no better than to quote freely from the article in order to make his attitude toward the uplifter understood.

"Even a conservative, cautious ecclesiastic may feel bound in honor to record his misgivings—misgivings which many another parson frequently shares. He sees in all churches hundreds of his brethren 'seeking refuge from the difficulties of thought in the opportunities for action.' He sees scores of his friends, resigning an inspirational ministry to accept ecclesiastical positions as field secretaries or swivel-chair reformers. He sees churches abandoned to the unrestrained energy of social uplifters who are experts in politics of every type, from the common garden variety upward. He sees the slow and patient process of reforming the world through reforming individuals give way to the more popular process of compelling the nation and the world to be good by statutory enactment. He finds among Protestant ministers and their leading laymen a new type of spiritual enthusiasm—though it is as old as Puritanism, older, indeed, and seems new only because it has become as prevalent as an epidemic. He finds these fervent followers of the new righteousness determined to mold all men in one pattern and resolved, at any cost and with the expenditure of any amount of force, to make it impossible for other people to be sinners in their own way, while blissfully unaware that bigotry, religious hatred and pious cant may be worse sins than many of the offenses already listed in the statute-books."

"Take, for example, the present passion for social service. Organized, as the welfare movement is, on a thoroughly professional and commercialized basis, it has become one of the chief sins—and one of the worst pests—in America today. No one could possibly estimate the harm that has been done to all movements for social betterment by the paid uplifter. He is a general nuisance, and many a good cause has been ruined by his pernicious activity. Nowhere has the evil of such commercialized service been more serious than in the churches." * * * "These experts were hired and fired. Most of them had to make their own jobs (and in endeavoring to magnify their office they stuck busy fingers into other people's pies until the patience of the synods and conventions which engaged them was tried to the limit). Often they were parlor Socialists or doctrinaires who plunged their ecclesiastical organizations into unauthorized action in legislative halls and committed them to poorly digested programs of social, economic and industrial reform. Ecclesiastical counselors to state legislatures, amateur advisers in industrial relations and youthful critics of the present economic order were so numerous that one could not shake a stick at them collectively, much less hit them with it individually on the head. * * * They have hung like hornets about the heads of legislators until the better type of politician has retired to private life, and men of the baser sort have been pushed into the making of laws which they themselves do not obey and in whose real worth they have never had any faith."

The Bishop thinks that "the curse of commercialized service lies in the fact that most of us want to see necessary reforms enacted and necessary works of betterment performed; but paid experts who are obliged to magnify their office or lose it have defeated the very purpose of social service—first, by attempting so many things that nothing is done well and many things are attempted which ought not to be done at all; second, by increasing overhead expense through conventions, conferences, local and general offices and the multiplication of organization, until overlapping in work is the rule rather than the exception; and lastly, by making such exorbitant financial demands for all these things that the charitably disposed are giving up in despair."

Not only the preacher but the doctor has fallen into this same trap, and he struggles like a caged animal, sometimes, to get out of it only to be confronted by another uplifter. The daily mail is full of circulars so full of unimportant things that the secretary of a busy man does not let him see one-half of it that comes into the office—most of it uninteresting circulars and appeals for money. It is well known, too, that both clergymen and doctors are easy prey to the uplifter, to the advertiser, and particularly to the man who has something to sell. Consequently, if a man wants to do clerical or professional work he has to put all this aside, and he finds it infinitely better for himself and for his congregation or his patients to devote himself to his occupation and not be led astray by all this ill-sorted, needless advertising.

Some of the social workers are so ignorant of what social service means that they are attempting to deprive individuals of their liberty on the ground that they are feeble-minded, rather than on the ground that they are "naughty" and ought to be spanked and sent to bed or to the workhouse. They create endless trouble in hospitals and other places, thrusting themselves in where other visitors would not dare to go—reminding us of the old saying, "fools rush in where angels fear to tread." If professional men are special victims of these pests, what must the politician be? He probably gives way just as often as the professional man because he thinks only of his political future, and he knows perfectly well that the resolutions that are handed to him were "framed by a select little gathering of earnest and ignorant ladies of leisure, urged thereto by some paid enthusiast, and that the appeals and instructions represent a few more or less faithful attendants at club meetings and not the thousands of members for whom they claim to speak." Sometimes, worse than all of these, the "mail bag and the social worker," the plague is the early morning telephone call which is used by some of these individuals without restraint, and without hesitancy, at any time that suits their convenience. Men and women are called from their beds to answer an insipid request to attend a certain meeting or attend a certain function.

ENORMOUS INCREASE IN CANCER MORBIDITY AND MORTALITY

Statistics compiled by the Metropolitan Life Insurance Company shows the following outstanding facts pertaining to cancer statistics:

1. Cancer was the fifth cause of death in nu-

merical importance, during the period 1911 to 1922, being outranked only by heart disease, tuberculosis, Bright's disease and pneumonia.

2. During the last two years of the period the relative rank of cancer as a cause of death was higher than in the prior years. In 1921, only heart disease and tuberculosis had higher deathrates.

3. If a boy or girl once reaches the age of ten there is more likelihood of dying ultimately from cancer than from tuberculosis, or pneumonia. Heart disease, chronic nephritis (Bright's disease) and cerebral hemorrhage (apoplexy) are the only diseases which are more likely than cancer ultimately to cause the death of a male who has once reached the age of ten years; and only heart disease and cerebral hemorrhage are more likely to cause the death of a female who has already lived ten years. Of 100 boys ten years old, the probability is that more than eight will eventually die of cancer. Of 100 girls ten years old more than eleven will eventually succumb to cancer.

4. One dollar in every eleven disbursed in death claims by the Metropolitan Life Insurance Company is paid out on account of cancer. Tuberculosis and heart disease are the only diseases responsible for greater disbursements than is cancer.

5. The mortality from cancer has increased in the industrial population of the United States and Canada during the twelve years studied. In making this statement, allowance has been made for more accurate reporting and certification of causes of death—factors which would in themselves tend to raise the apparent deathrate. It is believed that even after making further allowance for improvement in medical diagnosis, the conclusion would remain essentially the same. However, the actual increase in the cancer deathrate has been small—much smaller than might be inferred from analysis of published crude deathrates. It has been greater among males than among females.

6. The deathrate has not been increasing uniformly at the several age divisions in life. There was probably a slightly declining tendency among females between 35 and 55 years and a significantly upward trend beyond 55 years in each sex. The more advanced the age, the greater has been the rate of increase. It is thus evident that the gravity of the cancer situation is concentrated on the older ages of life, not only from the standpoint of maximum incidence, but from that of increasing mortality. The possible slight fall between 35 and 55 years of age may mean that there has been some response to the campaign of education for cancer prevention in this age range, where persons are more amenable to instruction, come more often under medical supervision in the course of treatment for minor, acute illness, and apply, to a greater extent than those of more advanced age, the lessons taught through the public press and by health organizations. The observed slight improvement would then perhaps be, in part, the result of saving or prolonging the lives of increasing numbers of persons affected with tumors, through the medium of early surgical operation.

7. Although cancer is seldom regarded as an important disease in childhood and adolescence, a considerable number of deaths from this cause occur before age 25. More than 2 per cent of all the cancer deaths of these Industrial policyholders were of persons under 25 years. Practically one-third of all of the deaths from cancer of the brain, one-quarter of those from cancer of the bones, the kidneys and supra-renals, and one-eighth of the mortality from cancer of the lung and pleura occurred among policyholders under twenty-five years of age. The type of malignant growth known as sarcoma is responsible for most of the deaths of young children reported as due to cancer. In considering these figures it must be borne in mind that the insured population of the Industrial Department of the Metropolitan Life Insurance Company is richer in young persons than the general population.

8. Deaths from cancers of the stomach and liver, the female genitals, and of the peritoneum, intestines and rectum, together constitute over two-thirds of the mortality from cancer. For cancers of the stomach and liver, there is little difference in the deathrate of males and females. For cancers of the peritoneum, intestines and rectum, the deathrates among women are much higher than among men. The relatively high rate from these cancers, together with those of the female genital organs and of the breast, are the factors which make the female deathrate for cancers as a whole higher than that for males. Buccal cavity and skin cancers, especially the former, run much higher among men.

9. This relatively high mortality among females from cancers of the peritoneum, intestines and rectum conforms to what has been observed for certain other abdominal diseases. Intestinal tuberculosis and tuberculous peritonitis, contrary to other forms of tuberculous disease, also register higher mortality among women than men. We know of no satisfactory explanation for this. The deathrate of females is also higher than for males for a more heterogeneous group of intestinal conditions including intestinal adhesions, "chronic constipation," fecal fistula, intestinal gangrene, intestinal hemorrhage, intestinal paralysis, etc. This, again, suggests a relationship between the disease of the female sex organs and those of the intestinal tract.

10. The deathrate for cancer of the stomach and liver, for all color-sex-age classes combined, has shown no decided upward or downward tendency. In one color-sex group alone, colored males, was there an unmistakable rise.

11. Cancers of the pharynx and of the esophagus are rare among females; but growths of the liver and gall-bladder are much more frequent among females than among males.

12. The female genitals, next to the stomach and liver, are the most important seat of malignant disease. Among colored women, the deathrate for female genital growths is even higher than for the

stomach and liver. There was practically a stationary deathrate during the twelve-year period, although a definite rising tendency is in evidence for both white and colored women in the age-group 65 to 74 years. More than eleven-twelfths of this type of malignant growth are seated in the uterus among white women and about 97 per cent among colored women. The deathrate among colored women from uterine cancers is excessively high.

13. The upward trend of the deathrate for cancers of the intestinal tract has been more pronounced than for any other group of malignant growths, particularly among the whites of both sexes. Among colored females the only significant rising tendency shown in this group was at 55 to 64 years.

14. More than 60 per cent of the mortality from this group of cancers resulted from growths in the small intestine or in some part of the large intestine other than the rectum or anus. About 31 per cent of the deaths were due to rectal and anus growths while 6.5 per cent were from cancers in the mesentery or peritoneum.

15. Rectal and anal cancers exact a particularly heavy toll of life among negro women, in fact, they constitute the only instance in the entire group of malignant growths of the peritoneum, intestines and rectum in which the mortality among colored persons exceeds that of the whites. Further research is obviously indicated to determine whether colored women suffer more than white women from rectal and anal ulcers, abscesses, and other inflammatory processes. If so, do such conditions frequently develop into malignant growths?

16. Breast cancers cause 13.5 per cent of all deaths from cancer among white females; the rate runs higher among colored women than among the white. Its course has been upward for white women in one age group only: 55 to 64 years. For both white and colored combined, and at all ages combined, there was no material change in the course of the mortality from this cause.

17. Cancer of the buccal cavity was responsible for 8.9 per cent of all cancers among white males and 6.9 among colored males. Only 1 per cent of deaths from cancers among females was due to buccal cavity growths. The deathrates run higher among white than among colored men, but with women the situation is reversed.

At all ages combined no significant upward or downward trend in the deathrate was observed for any color-sex group. The rate declined among white males aged 75 and over and among colored males at 45 to 54; also among white females at 55 to 64. Most of the deaths result from growths of the tongue and jaw.

18. Cancer of the skin was responsible for 4.1 per cent of all cancers among white males; among colored males, for 2.1 per cent; among white females, 1.8 per cent, and among colored females, .9 per cent. The outstanding fact in the mortality statistics of cancer of the skin is its high deathrate among white persons as compared with that among colored persons. The mortality among white men in this experience was 3½ times that for colored men and the deathrate among white women was almost 2½ times that for colored women. The very pronounced color difference suggests an important field for investigation.

19. Cancer of the bladder, the lung and pleura, and, more particularly, the larynx, register higher deathrates among males than among females. Cancers of the kidneys and supra-renals show no sex incidence.

20. Cancer is increasing strikingly, among men, in a number of organs or sites which are not now segregated for statistical study.

NO PROHIBITION AGAINST ISSUING PRESCRIPTIONS

(Aiton v. United States (U. S.), 3 Fed. R. (2d Series), 992)

The United States Circuit Court of Appeals, Ninth Circuit, in reversing a judgment of conviction of defendant Aiton and in doing it with instructions to sustain a demurrer to the indictment and quash the latter, says that it need consider only the one count of the indictment on which the conviction was had. That count charged that the defendant, who was a practicing physician and duly registered with the collector of internal revenue, did unlawfully issue and write and deliver a prescription to a named person for 56 grains of morphin sulphate, not in good faith for meeting the needs of said person and not to effect a cure of him in the course of professional practice only, said person being a habitual user of and addicted to the use of narcotic drugs, nor to treat said person then and there suffering from an incurable or chronic disease, in the course of his professional practice only, but, on the contrary, with the intent and purpose to dispense, distribute, barter and sell such narcotic drugs for the purpose of catering to and satisfying the cravings of said person for said drug. The indictment stated on its face that it was based on Section 1 of the Act of Dec. 17, 1914 (the Harrison Narcotic Act), but the government conceded that the reference should have been to Section 2. However, it would be as difficult to sustain the indictment under the latter section as under the former. Section 2 only prohibits the sale, barter, exchange, giving away, dispensing or distribution of drugs, except in certain cases not material here. There is no prohibition in that section or elsewhere in the act against issuing, writing or delivering prescriptions by a physician, regardless of the intent of the physician or the purpose for which the drugs are to be used.

It was to be inferred from the language of the indictment that it was based on the decisions in United States v. Doremus, 249 U. S. 86, 39 Sup. Ct. 214, and kindred cases, in which indictments were sustained by the supreme court. But it will be found

on examination that in every such case, except where a conspiracy was charged, the indictment charged a sale or other distribution of drugs, and that in the conspiracy cases the charge was a conspiracy to sell or distribute drugs, not a conspiracy to issue, write or deliver prescriptions. For these reasons the count of the indictment under consideration charged no crime, and the demurrer should have been sustained.—*J. A. M. A.*

Correspondence

PROTEST RE-APPROPRIATION FOR MATERNITY LAW—NIGHT TELEGRAM

Silvis, Illinois, January 26, 1926.

To the Editor: The enclosed copy of night telegram sent Senators Charles S. Deneen and William B. McKinley, also to Congressman John C. Allen, in response to your telegram of the 14th. I am likewise enclosing you a regular correspondence letter sent the same gentlemen under date of January 16.

The following is the night telegram:

Silvis, Illinois.

Interstate and foreign commerce committee Thursday the fourteenth rushed out same day it was introduced into House a bill extending Federal Aid Maternity Act for two years; why the hurry? why that hearing and if two years is all why the bill? Illinois State Medical Society opposed and asks your active support in opposition; letter in the mail; good wishes.

WILLIAM D. CHAPMAN,
Chairman of the Council,
Illinois State Medical Society.

Copy 3:
John C. Allen
William B. McKinley
Charles S. Deneen.

Copy of letter as per above:

Silvis, Ill., January 16, 1926.

Hon. Charles S. Deneen,
Senator from Illinois,
Senate Office Building,
Washington, D. C.

Dear Sir:

My to you night letter of yesterday, on the subject of a House "Maternity" Bill, was not sent because I approve of attempts at government by lobby. The lobby of the moment seems to me a serious mistake, but we participate somewhat because everybody's doing it.

Illinois is one of twelve states which are called upon to pay better than 95 per cent of the cost of all "Federal Aid" (fifty-fifty) enactments. The members of the medical profession are in position to give expert advice in maternity matters; they are the men who have managed it and have collected information of a practical sort which is not essentially sentimental or theoretical.

The vigorous opposition of the Illinois State Medical Society to the original Sheppard-Towner Maternity Bill was partly responsible, along with the other opposition, for its reduction to a five-year term trial enactment; in the face of the most powerful sentimental and bureaucratic lobby ever imposed upon our Congress. That opposition was based upon practical humanitarian and politico-economic reasons which can be demonstrated at some length. The opposition was not from selfish motives, but was a matter of Honest-to-God Americanism. Our group prospers in direct proportion with the people who make up our clientele.

We have felt it to be a quite general sentiment in Illinois that the five-year enactment could not possibly be made permanent by the present Congress. And so the information that a little two-year extension is all that is asked by the Bureau is being received with interest. The circumstance of that request being passed out of committee on the instant and with no opportunity for adequate hearing is regarded as significant.

I have asked Mr. John C. Allen, representative of the Fourteenth Illinois District, to supply me with a copy of the House Bill and shall presently be in better position to discuss its details.

In the meantime we can only assume that the Bureau's modest request is the result of a hopeless feeling that they might, possibly, be granted that much; and that the matter will presently appear in the Senate. Your active opposition is earnestly solicited by the Illinois State Medical Society.

With good wishes and with great respect, I am

Yours very truly,
W. D. CHAPMAN, M. D.,
Chairman of the Council,
WDC-BW Illinois State Medical Society.

BERLIN WELCOMES AMERICAN PHYSICIANS

To the Editor: We wish to call your attention to an article appearing in the Journal of the American Medical Association, January 16, Department of Foreign News under the title, "Berlin Faculty decides against official welcome to American physicians," copied from a German Medical Journal dated December 11, 1925.

The reason given by the Faculty of the Berlin University for this action was on account of the exclusion of German physicians from taking part in International Medical Congresses.

There is no doubt that this was the attitude

taken by the Faculty of Berlin last fall, but many things have transpired to strengthen our International relations since that time. The condition at the present time is entirely different.

The first of this month we received assurance from both the German Government and the Faculty of Berlin that the members of the Inter-State Post Graduate Assemblies, who will visit Berlin, June 15, 16 and 17, will receive a most hearty welcome. These greetings were received following several months of discussion between the representatives of the German Government, the Faculty of the University and representatives of this Association, especially with Dr. Carl Beck, Secretary of the Foreign Assemblies of this organization, who is now in Europe completing the final clinic arrangements for the 1926 assemblies.

The position taken by this organization was: First, that the same spirit of equality and justice enjoyed by the profession of other countries in their relations with one another should be extended to those of the German speaking countries.

Second, that this Association is not affiliated with or responsible for the acts of other medical organizations, therefore, we cannot sign any documents or declarations pertaining to other medical bodies.

Following the publication of the article above mentioned, we cabled Professor Bier, the chairman of the Berlin clinic committee of this Association, to give us a statement so that we could speak authoritatively. The following is a copy of Professor Bier's answer:

Berlin, January 21, 1926.

"William Peck,
Freeport, Illinois.

Under the stated circumstances heartiest welcome. Letter follows. BIER."

In bringing about this understanding we believe we have advanced largely the spirit of International good fellowship in which this organization is deeply interested.

Very sincerely yours,

WILLIAM B. PECK,
Managing-Director.
Inter-State Post Graduate Assemblies.

ATTITUDE OF AMERICAN MEDICAL PROFESSION REGARDING BERLIN CLINICS

Freeport, Ill., January 26, 1926.

To the Editor:

In order that the medical profession of America may be set right upon the question of International relation regarding the Berlin clinics, we are enclosing you a copy of a letter that we have just received from Prof. William His of Berlin and ask you kindly to publish it in connection with the other information we furnished you.

With kindest regards and best wishes.

Very sincerely yours,

W. B. PECK.

Berlin, January 6, 1926.

Very Honored Sir Colleague:

I should like to add a personal communication to the official communication received.

You have observed that the answer to your letter has been long deferred. The reason, therefore, is in Berlin as was in Munich and Vienna, which still sustains the exclusion of German physicians from International Congresses, especially so the International Congress of Surgeons. There has been no public remonstrance raised against this from the American side. On this account conferences were required which is the cause of the delay of the answer.

Now the work can move forward with rapid expedition but it will be important for me to know before I send you a program, if the participants of the assembly will desire to limit themselves to visiting clinics of scientific institutions or, if they will have on this point more extensive interests. As for instance: public health, social medicine, tuberculosis and child protection and the like. A communication from you on this point would be very valuable to us in the preparatory stages of the work.

The list of members of the Faculty corrected I am enclosing you.

I shall be pleased to greet a large number of prominent American colleagues here and am

With distinguished Esteem,

(Signed) HIS.

Prof. Wilhelm His.

PLURIGLANDULAR THERAPY

Chicago, January 26, 1926.

To the Editor: Regarding pluriglandular therapy there is a tremendous amount of noise made about this question and probably most of it comes from men who do not use endocrine therapy at all, except possibly some thyroid occasionally, and who are not so familiar with the subject of endocrinology as are some of the men who are seeking to correct.

It seems to me that the question of pluriglandular therapy is a ghost, fetish, red flag, or some such thing that starts more trouble and more arguments than its importance justifies. Some time in the dim past some "authority" it seems frowned on the use of more than one gland in the treatment of a patient. Since that time many writers have followed the dictum of this ancient authority without stopping to reason why.

There are many very good reasons for using more than one gland at the same time in the treatment of the same patient. By the same token there is no excuse for using all of the endocrines in every dose given expecting the body cells to select from such a hodge podge the gland which they need. It is well known, (I believe even our endocrine nihilists admit it), that some glands have overlapping zones of influence. By this I mean, for example, that the anterior lobe of the pituitary and the thyroid and adrenal cortex exert a stimulating influence on the osseous and genital system. Would it be criminal to use these three glands at the same time if one were unable to decide which one was most at fault?

Examples of the inter-relations of the endocrines are very numerous. The pituitary undergoes considerable hypertrophy after thyroidectomy. After removal of the pituitary, in the tadpole, the thyroid and interrenal bodies fail to function; but functional and structural restoration can be brought about by the use of pituitary substance, the anterior lobe having the most pronounced effect.

In cases of severe diabetes coming to autopsy, where it is found that the pancreatic changes are slight, the adrenal cortex shows considerable degeneration. If a considerable portion of the adrenal cortex is removed glycosuria develops even if the pancreas is intact.

The pancreas is unable to maintain a normal blood sugar in the presence of severe liver insufficiency as shown by animals from which the liver has been removed. The liver is unable to maintain a normal blood sugar level with a sugar free urine in the absence or considerable reduction of the pancreatic hormone insulin.

It is quite likely that the liver loses its detoxicating ability when the parathyroid hormone is absent.

More cases of non-toxic goiter develop at puberty than at any other age and the use of ovarion substance in their treatment is urged by such authorities as Bram of Philadelphia. More cases of myxedema occur about the menopause than at any other age. The cretin shows many disturbances in the anatomy and function of the genital system.

I think most men would admit that in a department of experimental medicine or in a charitable institution where the patients could be used for teaching purposes, uniglandular therapy is the method of choice for obtaining additional information, but in everyday practice where our business is to relieve and cure patients, the doctor should use every means at his command for that purpose. To prolong a patient's disability by using one gland at a time when pluriglandular therapy might hasten his recovery is certainly sacrificing the patient's interest to our quest for "scientific" information.

YOU AND YOUR BUS

You know the Model of your Car,
You know just what its powers are;
You treat it with a deal of care,
Nor tax it more than it will bear.
But as to Self—that's different—
Your mechanism may be bent,
Your carburetor gone to grass,
Your engine just a rusty mass;
Your wheels may wobble and your cogs
Be handed over to the dogs.
And you skip and skid and slide
Without a thought of things inside.
What fools, indeed, we mortals are,
To lavish care upon a car,
With ne'er a bit of time to see
About our own machinery!

—*John Kendrick Bangs.*

Doctor—"You have acute appendicitis."
Fair Patient—'Oh, Doctor—don't flatter me."

Original Articles

PROPHYLACTIC BLOOD TRANSFUSION AS A ROUTINE MEASURE IN POOR OPERATIVE RISKS.*

GEORGE GRAY WARD, M. D., F. A. C. S.

Chief Surgeon, Woman's Hospital, New York; Professor of Obstetrics & Gynecology, Cornell University Medical College.

NEW YORK CITY

Blood transfusion is today a familiar procedure in every hospital, thanks to the work of Crile, Moss, Linderman, Lewisohn, Unger, and many others, who have simplified and perfected the technic so that it is now a comparatively safe and most valuable therapeutic measure.

The procedure is also familiar to the laity due to the frequent exploitation by the daily press of such good news copy as the "heroism" displayed by a relative or friend in sacrificing their blood to save one dear to them.

But to some of the profession and to the lay mind certainly, blood transfusion is still regarded as a measure of resort in desperate cases only, such as severe anemias and profound post operative shock from hemorrhage.

I wish to call attention to the great value of blood transfusion as a prophylactic preparatory measure in patients who are to undergo any severe or prolonged operation, where shock or considerable loss of blood may be anticipated, and also in patients who are to have minor operations involving blood loss and who have a lowered resistance, due to anemia or other causes.

Gynecological patients more than any others are most likely to have an associated secondary anemia of varying degree, due, of course, to the menorrhagias or metrorrhagias so frequently present in uterine or adnexal disease. Thus in the Woman's Hospital in New York, we perhaps see a larger proportion of patients with anemia who have to undergo operation than is usual in a general hospital. The cases with fibroids, carcinoma uteri, idiopathic uterine bleeding, the incomplete abortions and ectopics are all most likely to have an associated secondary anemia of varying degree. Many such cases are dangerous operative risks, yet until recently it has been customary to operate upon such patients, often with an hemoglobin of 50 per cent or less, and a marked loss of erythrocytes, with an inevitable higher mortality rate than is necessary, although a blood transfusion may be done after the operation as a last resort when the grave condition of the patient is realized. Indeed, I am under the impression that today such is the usual practice in many of our hospitals.

Furthermore, our conception of the amount of blood lost in the course of an operation is in general very vague. This has been recently pointed out by Gatch and Little[1] of Indianapolis in a study they have made of this subject.

Our idea as to the amount of blood a healthy individual can lose without marked inconvenience is based on our observation of blood donors. In our experience 500 c. c. to 750 c. c. is the average amount of blood that can be taken without symptoms, and that over that limit distressing signs begin to occur. The giving up of 500 c. c. of blood by an ordinarily robust individual certainly calls for no "heroism," and our internes are frequently glad to earn some extra money in this way.

Laboratory experiments confirm these observations as it has been shown that animals can lose 25 per cent by volume without bad effects. Gatch's and Little's observations approximate our own experience in this regard. Their method of determining the blood lost at operation was based on colorimetric measurements of the blood recovered by washing the gauze sponges used. Their results showed that the method was accurate within 5 per cent.

A pan-hysterectomy for fibroids showed a loss of 304 c. c., a radical breast amputation in a vascular case showed a loss of 710 c. c., a nephrectomy showed 816 c. c. It is easy to see that the loss of such amounts during operation in a patient with an hemoglobin of say 50 per cent and with less than 3,000,000 red cells, may seriously endanger the patient's life. Especially is this true when we consider that such a patient's resistance may be still further lowered by the added shock to the sympathetic system of a severe or prolonged abdominal operation. Likewise in extensive vaginal plastic operations, there is nearly always a continuous capillary oozing of blood, which amounts to a considerable loss in an operation requiring an hour or more for its completion, and which owing to its insidiousness, is frequently not fully appreciated by the operator.

Our experience at the Woman's Hospital in a

*Read before the Interstate Post Graduate Assembly at Milwaukee, October, 1924.

considerable number of cases shows us that 500 c. c. of blood as a prophylactic preparation for operation in cases of secondary anemia is sufficient in the majority of the patients to bring the blood condition up to safety limits. Occasionally a second, or even third transfusion may be necessary in very low blood states, but we find this unusual. Undoubtedly this is due to the stimulating effect on the blood making organs that a transfusion produces as evidenced by the progressive improvement in the blood state that continues for some time after the transfusion.

This fact is fortunate as it makes the obtaining of donors much less difficult, if not more than 500 c. c. are taken, and with a donor available there is no excuse for not bringing our patient to the operating room with her resistance at the best possible state in order to withstand the ordeal to be undergone with the maximum of safety.

All that is necessary then is the ability to perform the transfusion. Thanks to the work of Lewisohn anyone with the knowledge of the simple technic of an intravenous infusion can give a blood transfusion by the citrate method which is familiar to you all.

At the Woman's Hospital we use the direct method, as we believe its advantages make it well worth while, although formerly the citrate method was used. The technic we employ is that of Unger[2] which was proved very satisfactory in our hands. Our internes are all trained in the technic, and in the past two years no interne has graduated from the hospital who is not an expert in giving a direct transfusion, and in typing and matching the donor and recipient's blood.

I have recently reviewed the blood transfusions done at the Woman's Hospital during the past two years by the direct method and I have also had a study made of the reactions in this series by two Senior Cornell students (Souter and Duryea) during their course at the hospital, which will be shortly published.

In spite of the perfected technic and the more accurate method sof typing, post-transfusion reactions occur in about 25 per cent of cases, but fortunately the danger of gross incompatibilities may be said to be eliminated, and the reactions observed are usually not of a severe type, and are not sufficient to counteract the great therapeutic advantage of the transfusion. Still we cannot feel that the technic of blood transfusion is perfected until we can eliminate reactions in all cases. The cause of these reactions is still obscure and we cannot foretell when a raction will or will not occur. As yet the problem has only been solved in its grosser aspects. The experimental work of Guthrie, Huck, and Pessel[3] has shown that it is probably necessary to modify the accepted classifications of the blood types of Jansky and Moss as they have demonstrated five isoagglutinins and isoagglutinogens in human blood. It is probable that the skill and dexterity of the operator in making a speedy transference of blood is a factor of considerable importance.

Our method is to use the Moss classification and the hanging drop method in the typing, and in addition the donor and recipient's bloods are directly matched in all cases for at least thirty minutes. We regard this last step as of the utmost importance in checking up on the compatibility. We also consider it very necessary that the donor's blood state be checked up at the time of the transfusion as it has occasionally happened that the donor has had an unsuspected secondary anemia. This is especially so if a professional donor is being used, and will of course give a disappointing result. Many patients will be saved if every case is typed as a routine and a list of donors kept available for emergency use.

Our study seems to show that transfusions of more than 500 c. c. of blood were followed with a higher percentage of reactions than with the smaller amounts, and repeated transfusions increased the percentage of reactions. We do not find that a transfusion increases the blood pressure to any marked extent, and therefore do not hesitate to give a pre-operative blood transfusion in cases of internal hemorrhage such as in ectopics, as we do not fear further bleeding from increased pressure. We have also observed that at the end of forty-eight hours the highest percentage of increase in hemoglobin and red cells occurred in those patients who had had reactions.

It is our practice in cases of profound operative shock to immediately give an intravenous infusion of 250-300 c. c. 6 per cent gum acacia and 20 per cent glucose solution at a rate of 4 c. c. per minute at a temperature of 105° F. as advocated by Farrar[4], which will at once raise the blood pressure and hold it for several hours, thus combating the state of shock until the blood transfusion can be given. This we find is a safe

and most valuable aid in an experience of many hundreds of such infusions.

We now have accurate records of 282 direct blood transfusions done on the gynecological service of the Woman's Hospital during the past twenty-six months, which record the temperature, blood pressure, pulse, and complete blood examination before, directly after, two hours after, and forty-eight hours after the transfusion, in addition to the general facts concerning donor and recipient. Prior to that time, the records did not give complete details, the methods were variable and the technic was not standardized, and the transfusion was in general used only as a resort in desperate cases. Of these 282 transfusions, more than 50 percent were pre-operative prophylactic transfusions, done to bring the patient to the operation with her maximum of resistance, and in addition a considerable number were done at the time of the operation or immediately after as a prophylactic measure and not because of the precarious condition of the patient. And I wish to emphasize the point that in many of these cases, the patients were *not* in a state of marked secondary anemia but showed a moderate loss only, as for example 65-70 per cent hemoglobin and 3,000,000-3,500,000 red cells. That this preparatory treatment was well worth while, is unquestionable, our mortality and morbidity being reduced and the beneficial results as shown by a much speedier and smoother convalescence, are acknowledged by the entire staff. I feel sure that the adoption of *routine* pre-operative blood transfusions in patients whose resistance has been lowered, or whose blood examination shows a reduction under 75 per cent, will reduce the operative mortality rate of any hospital as it has ours, which last year was 1.6 per cent for all cases.

One of the great benefits that has come out of the Hospital Standardization movement, which was first stimulated by Codman, is that today we give careful pre-operative study to our patients. The light of the Staff Conference beats too strongly on our after results to allow of the railroading of the patient to operation when no emergency exists. Thus with a better knowledge of our patient's condition we have no excuse for not giving her the advantage of this valuable prophylactic measure, should her resistance and blood state require it.

In conclusion, I would emphasize the following:

1. That blood transfusion should be employed as a *routine* prophylactic measure before operation much more frequently than is the present practice, especially in gynecological cases.

2. That every interne on graduation from a hospital should be competent to make the necessary blood typing and blood matching technic, and to perform a blood transfusion, preferably by the direct method. The blood examination is often necessary at night or on holidays when the laboratory force is not available. This implies definite instruction and the skill which comes with practice.

3. That 500 c. c. of blood is sufficient in a large proportion of cases for a prophylactic transfusion, and thus this amount is not sufficient to cause the donor distress.

4. That the amount of blood lost in many gynecological operations is not always appreciated by the operator and is a factor that should be considered where patients have a lowered blood state.

5. That while post-transfusion reactions occur in about 25 percent of cases they are usually not of a serious type provided that the donor's and recipient's blood have been directly matched, and that they do not appear to mitigate the benefits of the transfusion.

6. That if this procedure is more generally adopted, it will result in an appreciable improvement in our mortality and morbidity statistics.

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48 East 52nd Street

THE INTERESTS OF THE MEDICAL PROFESSION NOW BEFORE OUR STATE LEGISLATURE.*

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The interest of the medical profession now before our State Legislature is the subject assigned to me to present to this conference. Inasmuch as the secretaries of all the county societies re-

*Read before the Secretaries' Conference, Illinois State Medical Society, May 21, 1925, Quincy.

ceive the printed matter that is sent out by the legislative committee, it is to be assumed that you are as cognizant with the present situation in the Illinois General Assembly as am I. However, if I may handle the subject in a little different manner I believe that I may at least bring a thought to you that is probably not being considered among medical men at this time.

With due apology to the author of the very excellent letter which appeared in the recent issue of the ILLINOIS MEDICAL JOURNAL from a president of a county society regarding a certain bill now before the legislature, I am going to read certain extracts from that letter and comment upon the same to illustrate what in my opinion is a great error among medical men throughout the State in reference to legislative matters. There are many fine thoughts contained in it also for in this letter we find the following words: "To my notion, we are now overgoverned. The multitude of laws only breeds contempt for law." This is an excellent statement, definite, constructive and brings out the thought intended. To this we heartily agree.

In another portion of the letter we find these words: "Are there not sufficient laws to keep us within the ethical code of morality, and agents to enforce them, without additional restraint being added and new rules made?"

Here again is a well stated query and brings out the writer's point forcibly. The writer is opposed to the bill to which his letter refers which is certainly his privilege and I believe that we should speak very plainly when we are opposed or when we approve bills pending before a legislature. But then, in the same letter we find the following extract: "Biologically, the the average politician would rank with Protozoa —the way I view them. I wonder what percentage of them in the Legislative halls of the State of Illinois could show a high school education—not more than ten per cent., I'll bet."

In this statement the writer has thrown down an antagonistic gauntlet to the members of the Legislature and it is extracts of this kind in various letters received by the Legislators and others interested in the political field that is very damaging to whatever efforts we may be expending in legislative matters.

Two years ago when the Shepherd-Towner bill was before the Senate and arguments pro and con were being advanced, a prominent senator arose and read a letter from a member of one of the medical societies in the State of Illinois maligning him for his apparent apathy in not taking a direct stand against a federal subsidy of the kind that the Shepherd-Towner bill represented. The letter was very pointed in its remarks and the senator, after reading the letter, voted "aye" for the bill inasmuch as he did not feel that he could let any group of men such as the medical men dictate to him in any such language. Now in all probability the senator was merely looking for an excuse to vote for the bill and it was not the letter that changed his attitude whatsoever but frequently when a legislator is sorely pressed by two opposing factions it is a soothing thing to him to be able to take offence at the actions of one of the group so that he will have some explanation for his action.

Another passage of the letter reads: "After all of that, the Learned Legislator thinks it necessary to hamper the only honest, hard working, sacrificing servant of the public with still another swivel chair, or golf playing supervisor." This, of course, is a statement which would offend any legislator, for him to be accused of furthering an official who either idled his time by playing golf or directing the traffic from a swivel chair.

I wish it to be understood that I am not taking any issue whatsoever with the writer of the letter in his thoughts, but that I am criticizing somewhat the rather pointed language that is used. I do not believe that it is our duty to mince words, to attempt to soothe the feelings of those legislators who promise to uphold certain standards and then vote diametrically opposite to their pledge. I believe that this sort of a man should be dealt with severely and specifically. A point of issue was the pledge of a certain legislator to vote for the Medical Practice Act in 1923. His vote did not appear on the original roll call or on the call of the absentees but, to my knowledge, he presented himself to the Clerk of the House fully an hour after and asked to be recorded as voting aye. Within the last two weeks when the Chiropractic bill was on second reading he promised your committee that he would vote against the bill instead of that he walked up to the Clerk and in a stage whisper asked him to record him as "aye" which was in favor of the bill. A member of your Legislative Committee that evening informed

him that he was a first class double crosser, that his word could never be relied upon, that his vote was not needed upon the Medical Practice Act inasmuch as he was the 91st to vote when only 77 were needed and that he had consistently promised physicians in his district to uphold decent standards but was just as consistently against them in Springfield and that as far as we are concerned we would consider it an honor hereafter if he would vote for all measures derogatory to the public health.

This point is merely brought out to show that it is not my idea of adopting a wishy-washy attitude and not being afraid to speak the conviction of my conscience but this method should be applied to individuals and not to legislators as a group.

In another passage in the letter above referred to we find: "Doctor, in your experience, how many politicians have you seen who have had any idea of what they were trying to do—say nothing about an ideal." This, I believe to be absolutely wrong. Some of the finest minds to be found in the State of Illinois are represented in our General Assembly. This is also true in our National Government and when the writer of the letter includes this passage, "It appears that the medical profession is about to be Russianized by ignorant, designing, wire pulling political propagandists working upon the more ignorant politician," I do not know as to whether you agree with me that in my opinion it would look like statements of this sort would tend to show that we should be Russianized. If we are to continue to find fault with every man in the political field and condemn in one breath the entire group of fine business spirited gentlemen who do seek political office and make the laws that govern the State and the Country our influence will be unavailing. It is a well recognized fact that there are low grade politicians as well as low grade doctors and lawyers as well as many other groups and for us to continue to hurl such invectives at those men who do represent the law making part of our government is, in my opinion, a grave error.

It is not at all necessary for us to agree with politicians but in disagreeing with them it is not necessary to assume that all politicians are wrong.

Recently a councilor of the Illinois State Medical Society wrote a letter to one of the legislators in his district who had voted wrong on the Chiropractic bill and I never read a better or more convincing argument why he should change the attitude and vote right on the third reading of the bill as was contained in that letter but the last three lines of the last paragraph of the letter was as follows: "And thus make it a dumping ground for all the riff-raff and incompetent quacks for this and adjoining states who are now unable to secure a license under our present laws." This, in my judgment, was more damaging than all the arguments that were advanced in the letter. I arrive at that conclusion from this viewpoint. The legislative body of Illinois and all States is made up of lay minds. They are not medical men as there are only two physicians in the 54th General Assembly. There is a severe doubt in many of their minds as to the exact attitude they should assume on drugless healer bills inasmuch as physicians speak in general terms as if all drugless healing means being a quack. In this I believe we all agree but the question is how are we to prove such an assertion to a legislator? The mere calling of the name does not in any way prove the charge. I find in my work that many members of the General Assembly do feel that the medical men are persecuting a class of honest, well meaning citizens who have chosen a competitive field to practice in. One drugless healer displayed a receipt from the tax collector of his township together with a letter showing that he was the first man in the township that had paid his taxes and congratulated him on his promptness. Another showed where his wife was superintendent of the Sunday school and that he himself taught a class in the Sunday school and had three children he was educating to become good citizens and that he was lending every effort to conduct himself as a gentleman. Of course, it is not hard for us to see that he is using such illustrations to further his own charlatan ideas but how is the legislatureman to know? Is it not better for us to assume the attitude that these men are unqualified and to show conclusively that a high standard is necessary for the public health rather than to refer to them as jail breakers, riff-raff, ruffians or any other term which might come to our minds? The Supreme Court of the State of Illinois in the following words in a decision in the case of the People v. Love said: "It is not the prov-

ince of the courts to extol or belittle chiropractic, osteopathy or medicine and surgery. They are all now established as useful professions, and, as time has progresed it has been thoroughly demonstrated that all of them have accomplished, and are daily accomplishing, the relief and cure of human ailments." Now, of course, we disagree with the learned court. We are quite positive that they know nothing about the results of Chiropractors but would it be a good policy for us to get out a printed circular telling the world how imbecilic we consider the Supreme Court of the State of Illinois? Does it not look as if this kind of a policy would be unavailing? The thought I am trying to convey is that I do not believe that by merely charging the drugless healer with being a quack helps our cause in the least and certainly does grave damage at times.

In the very same letter above quoted from we find the following: "Isn't it strange, doctor, how, when a few females are gathered together in the name of bridge, cross-word puzzle, or what not, a committee must be formed to promote pet legislation to wait upon the legislator and importune him to support their most important bill for the furthering of the welfare of the so-called "poorer classes," or to restrict the doctor in his work among them, to discuss social evils and morals in general of everyone from the President down?" Here again we have the same situation. Women are entering politics and must be reckoned with. To charge them with inability to comprehend matters necessary for the body politic is a very dangerous thing and while I admit that it is just such parties as referred to that start the idea for some social uplift society or for some welfare bill which when handled by certain aspiring individuals shapes itself in the form of a State or Federal subsidy, I really believe that the same thought could be stated in a more gentle and less vitriolic form. In closing I wish to apologize again to the physician who wrote the letter which the above extracts were taken from and again desire to call to attention that this is merely representative of a great many letters, many of them written in more severe language than in this one and it is an attitude in the political field which I do not believe is conducive of the best results.

DISCUSSION

Dr. W. F. Grinstead, Cairo: In the slave days, on a big plantation in the South, the manager of the plantation issued an order to the negroes that any one caught fighting would be punished. One day, while inspecting the plantation, he saw two young negroes fighting like mules kicking. He stopped them and said, "Boys, did you not understand my order that there was a severe punishment attached to fighting?" One replied, "Yes, boss, but that fellow called me a nigger." "Well, you are a nigger." "Yes, boss, I knows I am, but it was the way he said it."

It is not so much what the man said to the politician as reported by Dr. Neal as the way he said it.

Dr. C. S. Nelson, Springfield: I wish to back up Dr. Neal in what he said. I have come in contact with a great many physicians around the country and I have found out that you have to use tact. You cannot use insults. You have to educate them in a tactful way. Just to give you a little incident, two years ago the lamented Dr. Wheeler was running for state senator. He came to me one day and showed me a letter he received from a minister in Springfield asking his attitude toward osteopathy. The man went on to say that he had consulted a number of physicians without success and then went to an ostepath and was cured. Dr. Wheeler asked me to formulate a reply and I wrote a letter something like this: I complimented the osteopath on his success and said, "I hope, my dear sir, there is still a little good left in the medical profession." Then I went on to tell him what the medical profession has done and what they are now doing successfully along the line of social diseases. I gave the letter to Dr. Wheeler and the next day the minister came to him and apologized to him. Had I written a letter abusing the osteopath, what would have happened?

CASE OF OVARIAN PREGNANCY WITH HISTOLOGICAL FINDINGS

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Ovarian pregnancy appears to have been first described by Mercerus in 1614. An important monograph on the subject was written by De Sanctis Meurice[1] in 1682 and was translated into several languages. Although cases were reported from time to time there was no evidence to distinguish them from tubal pregnancy, and several writers denied that a true ovarian pregnancy was possible. Lawson Tait, Bland-Sutton and Webster, among others, denied the possibility of ovarian pregnancy. The question was definitely settled by the pathological studies of Catherine Van Tussenbroeck, who in 1899[2] published an important histological study of a

case operated on by Kouwer[3] in 1897; Thompson[4] a few years later also demonstrated a case satisfactorily. Although the question of the occurrence of true ovarian pregnancy is now almost universally accepted there is still, however, some difference of opinion as to the mechanism by which it occurs; hence all cases fully

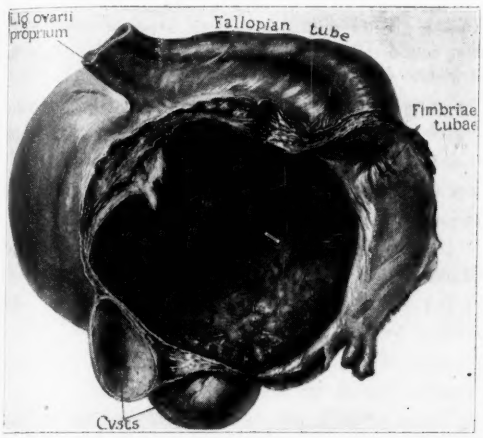

Fig. I. Sac of ovarian pregnancy drawn immediately after removal.

authenticated by complete histological findings are of very great value in elucidating the problems at issue.

The number of cases of ovarian pregnancy reported in the literature is comparatively small; and of these only a fraction can be accepted as histologically proved. Of course, it is to be understood that statistics of frequency are only of relative value, as many actual cases are either not observed or not reported. Many of the cases reported were accidental discoveries. Sutton[5] found that 72 cases of ovarian pregnancy were reported in the literature from 1909 to 1922 of which he admits only 47 as fulfilling the necessary criteria. Boewing[6] found that 100 cases had been reported up to 1923. In the recent literature I have found cases reported by Fuchs,[7] Fallon,[8] Krause,[9] Remmelts,[10] Hoehne,[11] Mertens,[12] Good and Richard,[13] and Martin and McIntyre[14].

In most of these reported cases the pregnancy ended early by rupture. In Boewing's case the fetus was 8 months old. The criteria of ovarian pregnancy were proved after operation in the thirteenth month of pregnancy. In Suvansa's case[15] a full term living child was delivered. The findings were made at autopsy after death of the mother from peritonitis. In this case the placenta was attached to the liver. Williams[17] found that 11 out of 35 cases collected by him had gone to term.

Robinson's case[16] was very similar to that now reported as there were small hemorrhagic cysts with a large blood cyst containing a cavity lined with an amniotic sac; but this is not by any means an unusual finding and appears to be rather the rule.

The following is the history of a case of ovarian pregnancy recently observed at the American Hospital, Chicago:

CASE REPORT

Personal History: Mrs. A. L., 32 years old. Menstruation began at fourteenth year; menses usually of four days duration and always accompanied by cramp-like pains. Married for past 14 years. One child died immediately after birth; no abortions. Husband is living and well. Last regular menses during first week of August, 1924. Had a profuse vaginal

Fig. II. Ovarian pregnancy. 1. Wall of the cyst. 2. Haematoma. 3. Ovum resting within ammotic sac, surrounded by hematoma.

hemorrhage Nov. 18. Since then there have been several slighter hemorrhages and intermittent pains in the lower abdomen.

Examination: Slight bloody discharge from vagina. Uterus in left lateral flexion. Cystic tumor felt in region of Douglas' sac, about the size of a man's fist and fairly mobile.

Pre-Operative Diagnosis: Ovarian cyst.

Operation: Laparotomy disclosed a tumor, the size

of a cocoanut, having the appearance of an ovarian cyst. (See Figure I.) The tumor occupied the normal position of the right ovary. The tube was adherent to the cyst by fibrinous adhesions which were easily separated. There was no difference between the peritoneum of the tube and the serosa covering the cyst. The ampullar part of the tube seemed slightly hypertrophied. On removal and sectioning of the tumor it was found filled with an organized blood clot with a sac (amniotic

Fig. III. 1. Chorionic villi. 2. Langhans' cells. 3. Ovarian tissue.

sac) on the upper border of the hematoma. An embryo 8 mm. long was found in a cavity in the blood clot. There were two smaller cysts in the wall of the larger cyst. The whole cystic mass was rather thin for about two-thirds of its length and was thickened where the embryo was found at the abdominal end. The fimbriae of the tube were adherent to the sac. The tubo-ovarian ligament and the round ligament, slightly hypertrophic, could be easily distinguished (Figure 2).

On microscopic section the slightly hypertrophic ampullar end of the tube, close to the abdominal opening, was seen to have the muscular layer somewhat hypertrophied. The blood vessels were somewhat dilated and thickened, with some round-cell infiltration. Well epithelialized folds could be seen in the lumen of the tube. The serosa was covered with fibrin. *On close examination of serial sections no fetal elements could be detected in any layers of the tube.* Careful examinations of various portions of the hematoma were made. The sac, in its thinnest part attached to the tube, showed histologically organized fibrin with poorly staining cells, thin layers of elastic fibers (serosa), with abundance of red blood cells; no fetal elements were demonstrated.

Close to the two small cysts the sac showed fibrous connective ovarian tissue with well-marked vessels, colloidal mass and blood extravasations, but no fetal elements. The thickest part of the sac showed a large number of Langhan's cells with chorionic villi (Figure 3), which appeared partially without their syncytial layer and dipping into the ovarian tissue. There were dilated vessels filled with fetal elements, tropho-blasts and Langhan's cells (Figure 4 and 5).

Sections made from the upper part of the hematoma, which contained the embryo, showed amniotic epithelium with poorly staining granules, *i e.*, chorionic villi in the stage of hyalin degeneration; hyalin degenerated fibrin and red blood cells (Figure 6) also abounded.

The round ligament showed many blood and lymph vessels greatly dilated and with hyperthrophied walls and round-cell infiltration (Figure 7). There was no evidence of fetal cells.

Spiegelberg[17] in 1878 defined the criteria which must be fulfilled in any case of true ovarian pregnancy. These conditions are:

(a) The tube on the same side must be normal;

(b) The fetal sac must occupy the usual place of the ovary;

(c) This sac must be connected to the uterus by the utero-ovarian ligament;

(d) There must be positive evidence of true ovarian tissue in the wall of the sac.

These criteria are usually accepted by writers on the subject of ovarian pregnancy, but certain modifications and additions have been sug-

Fig. IV. 1. Chorionic villi in stages of hyalin degeneration. 2. Blood corpuscles with fibrin masses. 3. Organized fibrin mass.

gested. Williams[18] modified the last condition by requiring that (e) ovarian tissue must be found at several different sites in the wall.

Norris[19] requires (f) that "the tube should not only be intact, but microscopically free from any evidence of gestation." Jacobson[20] thinks that (g) the embryo should be visible in the gestation sac.

The fulfillment of these modifications is not possible in every case. The case here reported, however, satisfies all necessary requirements:

(a) The right tube is perfectly normal at both ends and sides (the slight proliferation is secondary; (See Figure 1).

(b) The fetal sac is situated in the normal place of the right ovary;

(c) The utero-ovarian ligament was intact and artificially cut during the removal of the mass; (See Figure 1).

(d) There is positive evidence of ovarian tissue in various parts of the sac (Figure 3).

(e) Sections of the thickened portion of the sac reveal chorionic villi, Langhan's cells penetrating into the ovarian tissue (Figure 3), while there was a marked tendency for the fetal elements to get into the maternal blood there was no evidence of decidual changes. (Figure 6).

(f) The tube is quite free from fetal tissue;

(g) There is evidence of an intact embryo

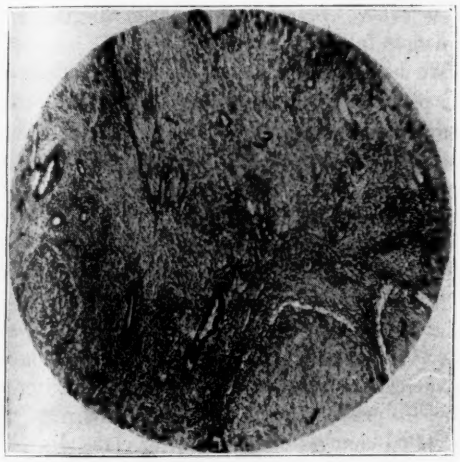

Fig. V. 1. Chorionic villi. 2. Infiltration with fetal elements. 3. Ovarian tissue.

7 m. m. long in the amniotic cavity (Figure 2, No. 3).

All the macroscopic and microscopic examinations in this case prove that it is one of hemorrhagic cyst combined with a true primary ovarian pregnancy.

DISCUSSION OF CASE

The first question that arises is that of the association of the large hemorrhagic cyst with the 3-weeks old embryo. This at once raises the question of hemorrhagic cysts of the ovary in general, as well as another on which this depends, the occurrence of Muellerian tissue in the ovary.

Webster[21] based objections to the occurrence of true ovarian pregnancy upon the phylogenetic ground that in the human female the fertilized ovum could only develop in Muellerian tissue. Sampson[22] has shown that it is possible that bits

Fig. VI. 1. Trophoblast cells in a capillary vessel. 2. The lumen of the capillary vessel. 3. Ovarian tissue infiltrated with trophoblastic cells.

of endometrium or tubal mucosa may, during menstruation, become implanted in the peritoneum and upon the under and lateral surfaces of the ovary; and, as pointed out by Sutton,[5] it is significant that nearly all cases of ovarian pregnancy have occurred in these locations rather than at the hilum. A recent study by Schwartz and Crossen[23] shows that the occurrence of endometrial tissue in the ovary is rather a frequent occurrence.

Jacobson[20] has shown experimentally that endometrial implants are capable of producing cystic ovary.

Endometrial implants in the ovary, as elsewhere, react to menstruation. They can, as shown by Sampson, invade the ovary and give rise to a hematoma, the tension of confined blood may cause a rupture and its escape into the peritoneal cavity giving rise to a cystic condition (hemorrhage cyst) in the ovary. It seems probable therefore that Muellerian tissue from the uterus or tubes can become implanted on the surface of the ovary and can be the orig-

inating factor in the formation of a hematoma there.

Such an endometrial ovarian implant would by its nature be a most favorable site for the development of a fertilized ovum if such could reach it. In fact, the presence of such endometrial highly vascular tissue may be taken as essential for the development of a fertilized ovum. Muellarian tissue besides being actually implanted on the ovary by accident during menstruation may of course occur in the ovary as a congenital "rest."

In normal pregnancy the union of spermatozoon and ovum is believed to occur either at

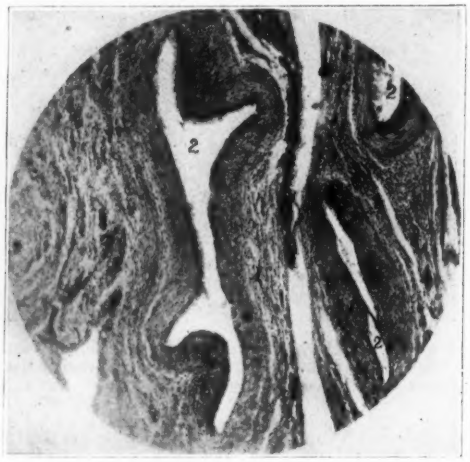

Figure VII. 1. Thickened blood vessel wall. 2. Lumen of blood vessel.

the fimbriated extremity of the tube or upon the surface of the ovary; in the ovarian pregnancy the spermatozoon usually meets the ovum while still in the Graafian follicle or else in the peritoneal cavity, the ovum then becoming implanted in the ovary.

That fertilization may take place while the ovum is still in the follicle is admitted by several writers. Leopold[25] has suggested that a centrally located follicle may rupture into one more superficially located, the ovum from the former being expelled but being fertilized in its original location by a spermatozoon which has gained access through the superficial follicle. Norris[19] holds that the spermatozoon can find its way into a recently ruptured Graffian follicle and fertilize the ovum *in situ*. Hewetson and Lloyd[26] believe that the fertilized ovum, in seeking a site for development, can burrow its way into a deeper portion of the ovary.

There are at least plausible bases for the occurrence of an ovarian pregnancy other than that it should essentially take place by fertilization of an ovum still remaining unexpelled in a ruptured Graffian follicle as so ably championed first by Van Tussenbroeck. Bryce Teacher and Kerr[24] were probably the first to definitely demonstrate that embedding of the ovum could occur outside a Graffian follicle. An ovum which had become fertilized and had escaped into any part of the abdominal cavity might become imbedded in an accidental superficial endometrial implant and would find it a suitable site for its specialized development. Sutton thinks that an ovum, primarily impregnated in the fallopian tube, may escape from the tube into a cavity preformed in the ovary, which would of course be really a secondary ovarian pregnancy. In the case reported by Fuchs[7] a defect in the left tube had allowed external migration of the spermatozoa.

According to Sutton there are 9 authentic cases where pregnancy did not begin in a Graafian follicle.

We have no histological or other evidence in the present case to show that fertilization of the ovum occurred in a Graffian follicle and must content ourselves with the statement that the method in which this primary ovarian pregnancy originated is unknown. A large part of the ovary had probably undergone cystic degeneration before the ovum was implanted in it.

There has been some controversy concerning the formation of true decidua in the ovary. Ray[27] shows that a decidual reaction is not necessary for embedding of the ovum which can occur in practically unaltered endometrium, the decidual changes occurring after embedding. In almost all the recorded cases of ovarian pregnancy (as in the present case) there is no formation of a decidua in the ovary. The reaction to embedding is first manifested by enlargement of the blood vessels and this is probably another factor in the development of the hematoma.

In Hunter's[28] specimen, certain cells embedded in strands of fibrin at the outer boundary of the intervillous space were interpreted as the remnant of a true ovarian decidua which had been ploughed up by blood issuing from the intervillous space. The question of the occurrence of a true ovarian decidual reaction may, therefore, be considered as still sub-judice and the his-

tological sections submitted in this present case may be of further interest in the solving of this question.

Hunter's case is very similar in its histological aspects to the present one, except that in the latter no ovarian or fetal elements could be demonstrated in the thin parts of the sac although there were plenty in the thicker part.

The conditions in which the ovarian pregnancy occurred might, perhaps, be explained by supposing that an impregnated ovum reached a hemorrhagic cystic cavity due to an endometrial implant in the ovary and become embedded in this cavity. The vascular engorgement in the vicinity of the growing sac added to the size of the hematoma surrounding it. A large part of the ovarian tissue had probably become degenerated by the hemorrhage from the endometrial implant, before the embedding of the ovum, and this might explain the absence of ovarian tissue proper in part of the cystic sac. As suggested by Hewetson and Lloyd[26] the ovum would naturally by its erosive qualities seek the vascular endometrial tissue for embedding where it could develop. The organized hematoma and unruptured fetal sac also explain why no free blood was found in the peritoneal cavity.

The question as to whether the impregnated ovum reached the cystic cavity from without the ovary, or whether sperm passed into a Graafian follicle or to its mouth to fertilize the ovum, or that such fertilized ovum became enclosed in a blood clot forming at the opening of the follicle must remain undecided.

An ovarian pregnancy most usually ends in early rupture and death of the embryo from the massive hemorrhage. In nearly all cases the chorionic villi are found floating free in blood and this also occurred in the present case as seen in Figure 4.

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IDIOPATHIC ULCERATIVE COLITIS WITH SPECIAL REFERENCE TO ETIOLOGY AND TREATMENT*

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Ulceration of the colon may arise from many different causes. Direct causes from organisms within the colon may produce mild or severe grades of inflammation or ulceration. *Amoeba histolytica, Balantidium coli* and the dysentery bacilli represent such type. Metallic poisons acting as caustics, such as mercury and arsenic, occasionally produce such trouble. When it is considered that the colon itself is an organ of excretion, it is evident that the ulceration may be caused not only by the direct action of poison from the colonic contents but also from poisons being thrown out of the blood stream through the walls of the colon. Arsenic, as given in the various arsenical compounds, has caused irritation and ulceration. The toxins of disease may also be the cause of ulceration. Following infection in the gallbladder and biliary tract, ulceration is occasionally seen. The terminal stage of nephritis is in many cases accompanied by colonic ulceration. Milder cases of nephritis are sometimes complicated by this condition. So, in many cases of severe, acute infections, diarrhea is the result of colonic inflammation and ulceration, produced by the excretion through the walls of the colon of those toxins in the blood that are in excess of the amount the kidney can take care of.

There are some forms of culceration which may be caused by both intrinsic and extrinsic irritation. Up to this time, tuberculosis has stood out as the chief example. There is one form of colonic ulceration which seems to be increasing in frequency, and which has been designated idiopathic ulcerative colitis, because no one has

*Read before the Chicago Medical Society, October, 1925.

been able to prove its definite etiology. Many persons have attributed its cause to various organisms, but no one has produced sufficient experimental or clinical evidence to justify his claim. *Bacillus coli, streptococci, bacill of dysentery*, amebas, and so forth, have each been suggested, but clinically the evidence was not conclusive and experimentally no uniform results could be obtained. In the last eight years, I have made efforts to find a bacterial cause of this form of colitis and failed. In common with *many others, I finally became convinced, after* using the tincture of iodin by mouth and obtaining complete remission of the disease in some cases, that the chief agent in the cause of this disease was a disturbance in the chemistry of the body. Two years ago Bargen began the bacteriologic study of this disease. As a result of his work, we must believe that bacteria are the predominating, if not the entire, cause of this disease. Following the methods and advise of Rosenow, Bargen has isolated from the mucous excreta and directly from the depths of rectal ulcers a large diplococcus in practically all cases seen during the last half of 1924 and the first five months of 1925. By injecting this organism intravenously into rabbits and dogs, he has produced ulcerative colitis in a number of these animals and has found the same organism in the ulcers.

REPORTS OF CASES SHOWING A DEFINITE RELATIONSHIP BETWEEN BARGEN'S DIPLOCOCCUS AND ULCERATIVE COLITIS

Case 1.—A woman, aged twenty-eight, was admitted December 30, 1924. Until four years before she had complained of constipation. Following the use of a laxative, diarrhea appeared and lasted two weeks. There were no complaints for one year and then diarrhea recurred for six weeks. She had a third very severe attack one year later which lasted several months, during which she lost 50 pounds. There were many ulcers in the mouth diagnosed as "specific with an acute condition superimposed." Since then she has never been normal. There have been from twelve to twenty stools daily with bleeding and marked weakness.

At the time of admission the hemoglobin was 53 per cent. and the erythrocytes numbered 3,440,000. The stool contained no parasites. The proctoscope showed marked rectal ulceration of the fissuring type in the horizontal axis of the bowel with several necrotic polyps. The mucous membrane between the ulcers was normal, and thrown into folds. The lumen was contracted to two-thirds its size. The appearance was not like that of tuberculosis. The anus was scarred and distorted. The roentgenogram of the colon showed a lesion of the rectum and rectosigmoid, probably due to ulcerative colitis. Arthritis was starting in kness and elbows.

Local medication was applied to the rectum. The usual treatment by mouth and vaccine was given hypodermically. She did not make the usual improvement after six weeks' treatment. The tonsils were removed with no improvement in the arthritis or colitis. A tooth which had been devitalized eight months previous to her first attack of diarrhea was then removed, and the vaccine treatment was again started. The arthritis immediately cleared up and the recovery of the bowel has been complete. Bargen cultured the periapical abscess and obtained his diplococci. These injected intravenously into animals produced ulcerative colitis.

Case 2.—A boy, aged fifteen years, was admitted because of slight attacks of diarrhea with occasional melena during the previous five years.

The stool showed no parasites. The proctoscope revealed granular proctosigmoiditis. Roentgenogram of the colon was negative. The tonsils were removed and culture of these produced Bargen's diplococcus in large numbers.

Treatment consisted of rectal injections, the usual treatment by mouth and the vaccine-filtrate made from Bargen's diplococcus. Five months later the patient is entirely well.

Case 3.—A man, aged forty-five, was admitted in December, 1924. He was always constipated, but controlled the activity of the bowel by diet. During the three months before admission, he noticed some ribbon stools with mucus. His doctor dilated the anus without relief and since then a daily laxative has been required. In the week before admission he suffered from many crampy abdominal pains.

The stools showed no parasites, the proctoscope revealed marked ulceration throughout the rectum and sigmoid and the roentgenogram showed a lesion of the rectum and rectosigmoid with a large dilated colon, the cecum being displaced across the median line to the left.

The patient went home and took a very severe cold. This lighted up a protracted attack of bloody diarrhea, many of the stools consisting of pure blood. The patient returned in two months and continued to go downhill, despite all treatment. Finally ileostomy was performed after the method of Brown, both ends of the ileum being brought through the abdominal wall. Within three weeks after the operation, the distal portion of the ileum at the stoma was covered by granular inflammatory tissue similar to that seen in the rectum. From one of these granulations Bargen secured a pure culture of his diplococcus.

Case 4.—A man, aged twenty, was admitted in October, 1925. During the previous nineteen months there had been three attacks of diarrhea, with watery stools containing blood and mucus. The first attack lasted three months, the second one month and the third began two weeks before admission. Each attack was preceded by a severe infection of the upper respiratory

tract. Amebas had been found during a previous attack; emetin then had had no effect on his diarrhea. Examination of the stools for parasites was negative. Proctoscopic examination showed a diffuse granular condition of the rectal and sigmoidal mucosa. There were scattered, punched-out ulcers which looked somewhat like those produced by amebas.

Roentgenograms showed active ulcerative colitis throughout. One tooth showed periapical infection and there was a tonsillar abscess. Direct cultures from several granulations in the rectal mucosa gave a pure culture of Bargen's diplococcus.

DISCUSSION

In Case 1, Bargen's diplococcus was found in a focal area at the root of a tooth. Organisms cultured from this, injected intravenously into rabbits and dogs, produced ulcerative colitis in them, and the diplococcus was again found in the ulcers in the animals. The patient did not recover until this focal area had been removed.

In Case 2, Bargen's diplococcus was found in the excised tonsil, and again recovery was delayed until after the elimination of the focal disease.

In Case 3, following the ileostomy, there developed in one end of the protruding ileum the same granular appearance as is seen in the rectum. By opening one of these granulations and obtaining a small drop of pus (containing a pure culture of his diplococcus) Bargen proved that the granulations contained miliary abscesses.

In Case 4, a much more difficult technical problem was presented. Through the proctoscope, the rectal wall was cleaned, then painted with iodin, and several granulations were opened. They proved to be small abscesses containing the diplococci in pure culture. These, injected intravenously into animals, produced ulcerative colitis in them. The primary culture obtained from the small submucous abscesses of the patient's colon was subcultured many times and the seventh subculture, injected intravenously, still produced lesions in a rabbit's colon with death. From the mesenteric lymph nodes of this rabbit, a pure culture of the diplococcus was again recovered.

I feel that this evidence is sufficient to show that Bargen's diplococcus is the definite cause of so-called idiopathic ulcerative colitis. The pathologic and proctoscopic pictures in this disease can now be understood in the light of these findings. The bacteria and their toxins have an elective affinity for the mucosa of the colon, at first causing an inflammation which is shown by a congested, swollen, red, glistening mucous membrane. Later, miliary abscesses form in the mucosa, and give the granular apeparance; these continue until they slough out, leaving either a shallow or deep ulcer, which may take different forms, depending on the swelling and the pressure on the rectal wall. When the infection is virulent, practically all of the mucous membrane is destroyed.

The course of the disease varies. It never comes in epidemics; in this series of 560 cases, there have been only four instances of two in the same family being affected. It is rare for one patient to know of a similar case in the same neighborhood. In the mild cases, only the rectum is affected at first, and this may be the case for several years, whereas in severe cases the entire colon may be affected within a few weeks. The rectum is the point of election for the disease to start. Only occasionally does it begin in the cecum or descending colon.

The disease is characterized by exacerbations, the activity in the beginning being replaced by entire quiescence, or by very slight diarrhea. During the quiescent period, the proctoscope may reveal the typical appearance. At times, constipation is present and daily laxatives are necessary. Reactivity may occur at any time without any known reason. It is very likely to recur if the patient takes cold or has an upper respiratory infection. Jarring or jolting occasionally induces a relapse. Some patients seem to have an idiosyncrasy for certain foods, but in general, food seems to play a small part in causing recurrence or in increasing the severity of an attack.

The relationship during the course of disease between ulcers of the stomach and duodenum and those of the colon is very interesting. The periods of activity and quiescence are the same, and the ulcer is present during the quiescent stage. The complications of the disease are the result of bacterial invasion of other organs or tissues. The commonest is arthritis affecting one or several joints. Perirectal infection comes next and is a very serious condition. When it occurs, there should be no temporizing. Immediate ileostomy is necessary to save the patient's life, as the tissues about the rectum lend themselves to rapid extension of the infection and

quick absorption of the toxins. Abscesses in other areas occasionally occur.

Subacute or acute perforation by the colonic ulcers may occur. If an acute perforation occurs, death is practically certain, even with immediate operation. More often, subacute perforation occurs, causing localized pain, with abdominal rigidity, a slightly higher rise in temperature and an increase in leukocytes. If this occurs, it is difficult to determine whether a complete perforation has taken place. It is safer to treat such a patient expectantly as, in the majority of cases, the perforation is sealed over by adjoining tissue. I have seen two such patients come to necropsy with the first perforations closed by the omentum, and other later perforations less than 1 cm. in diameter present without any leakage of the colonic contents. Among other complications, rectal stricture is very often seen, and erythema nodosum has been noted several times. Endocarditis has occurred twice in my series while the patients were under observation.

Positive blood cultures have been occasionally found, but, as they occurred before the finding of Bargen's diplococcus, they were not identified as other than streptococci.

Thrombosis, usually of the mesenteric veins, occurs rarely and is usually very serious. Carcinoma superimposed on the ulcers occurs in only a very small percentage of cases. Weakness is the most general complaint and is usually attributed by patients to the number of bowel movements. I believe it is due rather to toxemia. Necropsy shows marked fatty degeneration of many organs, the liver at time showing this to an extreme degree.

In about 12 per cent. of these cases amebas are found in the stools. I find them just as frequently in all examinations of the stool. Through the proctoscope, many ulcers of the amebic type can be recognized in association with the ulcers due to this disease. About 20 per cent. of this series of patients are classified as belonging to the low type; that is, the proctoscope can reach to about the upper limit of the inflammation and the roentgenogram is either negative or only suggestive of trouble in the rectosigmoid. This shows the importance of a good proctoscopic examination, as in many cases the diagnosis can be made by it alone. In a very few cases, the proctoscopic examination shows normal mucosa, but the roentgen ray reveals an area, usually in the cecum and ascending colon, more rarely in the sigmoid, with the characteristic deformities of ulcerative colitis.

CASES ILLUSTRATING THE DIFFICULTY IN DIAGNOSIS SOMETIMES ENCOUNTERED

Case 5.—A girl, aged twenty, was admitted, November, 1924. She had been taken, five months before, with headache, pleurisy pains, and abdominal pain starting in the left lower abdomen, radiating up and across under the ribs. The abdominal pain was quite severe, often doubling her up, but not severe enough to demand morphin. With the pain came loose bloody stools, from six to seven when she was up and from three to four when she was reclining. There was no history of fever, but when admitted to the hospital she was found to have a daily afternoon temperature of 100°.

Five examinations of the stools showed neither parasites nor tuberculosis bacilli. The proctoscopic examination revealed four small irregular ulcers in the sigmoid, the mucosa otherwise being normal. Roentgenologic examination of the chest was negative. That of the colon showed a lesion of the cecum and right half of colon, and dilatation of the sigmoid and descending colon.

Case 6.—A man, aged thirty-one, had had attacks of arthritis and abdominal pain with occasional slight diarrhea for three years. His condition had been diagnosed as "colitis" and he had received many treatments. He would omit treatment and return to work just as soon as he felt the least improvement.

He was very weak, with a hemoglobin of 63 per cent., but he had no fever. The clinical examination of his chest was negative, but the roentgen ray disclosed an old lesion at each apex. Two tests of the stool were negative for parasites, but the third showed one clump of acid-fast bacilli. On proctoscopic examination the lower rectum was clear, but the upper rectum and sigmoid showed many large and small irregular ulcers with a dirty grey base and overhanging irregular margins. The ulcers tended to encircle the bowel and there were several polyps. The roentgenologic examination of the colon showed an acute lesion throughout with most marked trouble in the cecum and ascending colon where the rapid emptying of the barium was seen. The fluoroscopic picture, however, made the roentgenologist report chronic ulcerative colitis.

DISCUSSION

In both of these cases there was marked prostration, fever in the first, but none in the second. The lower rectum, where chronic ulcerative colitis usually starts, was free in both and the roentgen ray showed maximal involvement in the cecum. Tuberculosis in the first case seemed the most likely diagnosis, but operation showed the condition to be ulcerative

colitis. The great extent of ulceration without fever in the second case is rather unusual, yet, with the characteristic rectal ulcers, the acid-fast bacilli in the stool, and the rapid emptying of the cecum, tuberculosis was the only possible diagnosis.

The symptoms of chronic ulcerative colitis follow logically the site and the extent of the lesion. With the inflammation in the rectum comes a diarrhea at first with soft stools only. When only the rectum or rectosigmoid is involved, the patient may pass one or two formed, or semiformed stools, the rest of the discharge being chiefly or entirely pus, mucus and blood. As the inflammation progresses higher into the colon and marked congestion and ulceration occur, there comes a more watery stool containing blood. There is a marked hyperperistalsis from the stomach to the rectum. If the diarrhea causes many stools, spasm and cramping pain occur along the line of the colon, or over a spot of more marked ulceration. If the spell is of long duration, the constant loss of small amounts of blood produces an anemia which is hard to relieve because of the exhaustion of the blood-building tissues. Should an ulcer erode a large vessel, severe hemorrhage may occur. In either event, transfusion may be necessary. In the present series of 560 cases, the average percentage of hemoglobin was 64, the lowest was 17. When the inflammation reaches the right half of the colon, it invades the large absorptive area, and its toxins more readily reach the circulation, thus causing fever of the septic type, occasionally with daily chills. The poison also reaches the vital organs, causing degeneration, chiefly of the fatty type. When this is marked, the patient has a sallow, waxy appearance and flabby muscles; he is not able to stand much in an operative way, and medical treatment is often of no avail. He simply fades away with apparent inanition. When the toxemia is severe enough to cause fever, it produces loss of appetite, occasionally nausea and vomiting. The toxemia and loss of appetite result in loss of weight at times extreme. The average loss was 22 pounds, though I have seen several patients who had lost 90 pounds, and one who had loss 100 pounds.

TREATMENT

The treatment of the patient depends on the severity of the disease and the length of time it has existed. Since the finding of Bargen's diplococcus, my treatment has changed and the eventual outcome is more hopeful. For a first attack or for an acute exacerbation of a chronic condition, rest in bed is usually advised, with a diet ranging from liquids to one with low residue and high protein. The treatment is started by giving, hypodermically, increasing doses of a vaccine-filtrate made from Bargen's diplococcus. Tincture of iodin, 10 to 15 drops, in a full glass of water is given by mouth, three times daily, and other medication is varied as needed with bismuth, kavolin, tannigen, calcium and parathyroid opium and so forth. The iodin in many cases has a marked immediate effect, making the patient feel much more comfortable. If the disease is below the descending colon, local treatments are given through the rectum. If the condition of the patient is not acute, the same procedure is followed, except that he is not put to bed. The vaccine treatment is kept up for about three months. In cases in which the entameba is found, a course of emetin hydrochlorid is given. If examination by roentgen ray shows that the diseased area extends above the descending colon, treatment through the rectum is of very little value. In all cases, all focal areas of disease are removed; tonsils and devitalized teeth are removed as soon as possible after treatment is begun.

In some cases, either the virulence of the disease or the lack of the patient's resistance makes the condition progressive, regardless of any form of treatment. In such cases ileostomy by the method of Brown is advised. The operation is thus attended with great risk, as only the very worst cases and those in which there is no resistance to the disease are sent to the surgeon. In many of these cases, the overwhelming character of the toxin has already caused marked fatty degeneration of vital organs which are not able to stand the added strain of operation. The patients who survive the immediate effects of operation may be divided into two groups. Those whose vital organs are not seriously affected make a good recovery, usually within a short time. In a few, excessive peristalis of the small intestine continues, causing irritation of the skin about the stoma and necessitating frequent changes of dressing, which makes the economic aspect serious to some patients. The second group is made up of those whose vital organs

have been seriously damaged. Some of these die within from one to six months from inanition, while others become more or less chronic invalids.

The vaccine treatment has been carried out in ninety-three cases. In six the disease was so acute as to demand operation; ten patients have been brought to remission with no clinical, roentgenologic, or proctoscopic evidence of activity; twenty-six are clinically well, but have not presented themselves for laboratory tests; twenty-two are improved or still under treatment, seven are not improved, and twenty-eight have been lost track of.

This method of treatment has brought about a larger percentage of remissions than any I have yet used. I am hoping that within the next few months a serum will be ready to use in the acute phases of the disease. If this comes up to expectations, the treatment will be modified accordingly and, to a large extent, the surgival procedures will be eliminated.

CONCLUSIONS

1. The diplococcus found by Bargen is the cause of idiopathic ulcerative colitis.
2. By the use of a vaccine-filtrate of this diplococcus, supplemented with iodin by mouth, a higher percentage of "cure" (remission) has been obtained than by any other method.

ACUTE LYMPHATIC LEUKEMIA: RELATION TO MINOR SURGICAL PROCEDURES:

REPORT OF A CASE*

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Acute lymphatic leukemia is a disease characterized by an enlargement of the lymph glands and spleen, septic temperature, ulcerations of the gums, mouth and tonsils, with occasionally bleeding from the skin, intestines, kidney and conjunctiva, and a characteristic blood picture. Naegeli observed that even in lymphatic leukemia the glands are not always enlarged.

The ulcerative stomatitis is the result of the breaking down of the lymphomas. These gangrenous processes which spread very rapidly, may also be the starting point of secondary septic infections, such an Vincent's angina, etc. In many cases a subleukemia or even an aleukemia may be present; leukocytosis appearing shortly before death.

The differential examination of the blood usually clinches the diagnosis. This condition depends not on the number of the leukocytes, but on the form. It is evident that only a very marked increase in the number of leukocytes or the predominance of certain forms of leukocytes, such as 80 to 90 per cent lymphocytes, enables one to make a diagnosis of acute lymphatic leukemia.

Acute leukemia has a striking resemblance to septic conditions, though from our present knowledge it does not belong to the known acute infectious diseases. It does, however, belong to that disease where the primary factor is in the hemopoietic system. At any event it is more than questionable whether septic infection plays an important role in the clinical picture of acute leukemia.

The acute type of leukemia presents a stormy onset, the course is rapid, usually terminating fatally in a few weeks or months. It may be doubted if any truly acute case lasts over six months. Instances of longer duration raise the question whether in these a chronic leukemia existing for some time without symptoms may not suddenly have developed an acute exacerbation. This, however, is not an infrequent occurrence.

The great majority of acute leukemias[1] occur in the early years of life, children and young people forming the greater bulk of these cases. In children, at times, there is a history of onset following the course of a long standing acute infection.

Recently my attention has been drawn to the fact that many cases of leukemia are precipitated by minor surgical procedures such as 1. extraction of teeth, 2. opening up of abscesses, furuncles and carbuncles, 3. minor accidents such as falls, sprains and the less severe fractures. I have in mind five or six cases that were precipitated following the extraction of teeth, with a resulting fatal ending in a few weeks. These cases evidently were of the chronic leukemia type, running a very low grade course,

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which suddenly assumed the *acute type,* following the extraction of the teeth.

The above facts are of great importance to the internist, and he should be on careful watch that none of these cases land in the hands of the denist. In suspicious cases, where a blood dyscrasia is possible, thorough blood work should be done before the case is given to the dental surgeon for therapy.

Most dentists are not aware of the danger of extracting teeth in these cases, and usually proceed to remove six to ten teeth at one sitting, claiming that the looseness of the teeth and the ulcerations of the gums and mouth are an absolute indication for the removal of these teeth. They are more than surprised to hear later that their patient succumbed within a few weeks from acute leukemia, and that the extraction of the teeth evidently precipitated the condition to that of a very acute process.

One must remember that the ulcerations of the gums, mouth and tonsils in acute leukemia are due to a breaking down of the granulomas, which is a part of the general picture, and are not due to local manifestations such as pyorrhea alveolaris, etc. These facts must be foremost in our mind before any oral hygienic measures are instituted.

The removal of teeth in these patients is usually too much of a strain and seems to lower their resistance, so that a chronic low grade type of leukemia is immediately transformed into an acute affair. It is far better to employ prophylactic measures, and scale one tooth at a time, than to extract.

Case 1.—D. R., male, married, Irish, aged 61, a motorman by occupation, was referred to me by Dr. Joseph C. Beck, complaining of progressive weakness with loss of strength for one month following an extraction of teeth. He also complained of sore throat, shortness of breath, nocturia and cramp-like pain in both thighs. He said he had been coughing off and on for about a month and that he coughed up one-half glass of blood. A few days before his attack of sore throat, he went to a dentist who extracted seven teeth at one sitting under local anesthesia. He states that since his extraction of teeth he is so weak that he is unable to do any work and that he is especially dizzy on arising. His appetite is poor. No loss of weight.

Previous illnesses: Mumps at the age of seven; whooping cough at eight, typhoid fever at 30. Family history is negative. Personal history—alcohol and tobacco in moderation. He entered the hospital on October 13, 1924. Physical examination revealed a well developed, well nourished adult male who did not appear to be acutely ill, but who had a marked pallor of the skin. The essential findings were as follows: Temperature 102.8F., pulse 102, respiration 22. He was markedly dyspneic and was very easily fatigued. He was very obese, weighing over 220 pounds. Marked pallor of face, lips and conjunctiva. Fetor oris. Marked injection of pharynx with a dirty grey ulceration over the anterior portion of the tongue, mucosa of mouth and tonsils. Gums bled easily. Marked pyorrhea alveolaris with recent signs of extraction of some of the upper and lower teeth, with several discharging sinuses. Speech was somewhat thick in quality. Neck revealed pulsations of the vessels, but no adenopathy. No auxillary or inguinal glands. Lungs negative. Heart, no enlargement; a fine systolic apical murmur. Abdomen was protruberant, with some herniation of the umbilicus. No spleen. Liver was palpable two fingers below the costal arch. Lower extremities showed slight varicosities of the veins. Smears from the tongue, mouth and around the roots of the teeth revealed Vincent's angina (spirochetes and fusiform bacilli). No jaundice.

Laboratory Work: Urine showed at times a trace of albumin with granular casts and pus. No red blood cells or bile. Blood Wassermann negative. Blood count (10-14-24) Hb 45, Tallqvist R. B. C. 2,140,000; W. B. C. 17,800. Color index 1+. The differential showed 90 per cent. large mononuclears, 7 per cent. small mononuclears, 3 per cent, myelocytes and no polymorphonuclear leukocytes. On the 16th of the month the R. B. C. dropped to 1,960,000. There were a few nucleated red cells, with poikilocytosis and anisocytosis.

Discussion: A diagnosis of acute lymphatic leukemia was made from a history of temperature, marked weakness, angina (mouth), ulcerative stomatitis, ulcerations of the gums, hemorrhage from the mouth and a typical blood picture which showed a differential of 97 per cent. lymphocytes with no leukocytes whatsoever. There is no question in my mind that this patient must have been suffering for some time with a chronic low grade type of leukemia, and that this condition was precipitated to that of an acute affair by the extraction of teeth.

Course of the Disease—Therapy: The ordinary therapeutic measures were instituted such as blood transfusions, arsenic, neosalvarsan and x-ray therapy. On the 16th of the month the patient received 530 c. c of whole blood. The blood count the next day was Hb 50; R. B. C. 2,280,000; W. B. C. 25,350; differential poly 3; S. L. 22; L. L. 74 and 1 T. On the 20th; the blood count was Hb 50; R. B. C. 2,110,000; W. B. C. 22,600; with a differential of S. M. 16; L. M. 77; T. 4 and poly 3.

On the 22nd day of the month, the white count jumped to 28,900. October 25, patient was delirious and had a severe hemorrhage from the throat, gums and rectum. He was quite dyspneic. This occurred again on the 27th. The blood count on October 24 showed the following: Hb 50; R. B. C. 2,490,000; W. B. C. 27,000; differential poly 2; S. M. 24; L. M. 73; T 1 with many nucleated reds. October 26 the

patient developed a hypostatic pneumonia, with a temperature of 103.6 F., respiration 40, with many moist rales throughout both lungs. His white count jumped to 37,600. He died two days later. His temperature during his sixteen days of illness in the hospital varied between 100 and 103.6 F. His pulse was always rapid.

CONCLUSIONS

1. A report of a case of acute lymphatic leukemia which was evidently precipitated by extraction of teeth.

2. The secondary infection of the mouth and tongue by Vincent's organism (spirochetes and fusiform bacilli).

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THE MANAGEMENT OF PEPTIC ULCER, GASTRIC AND DUODENAL*

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There seems to be little left to be said of gastric and duodenal ulcer that can not be found in most of our modern text-books. However, the more one studies and reads our current medical literature, the more one becomes confused as to what is the best procedure to follow in the treatment. These problems of treatment and the fact that this condition is so frequently unrecognized, particularly when it runs an atypical course, has prompted me to prepare this paper.

The old question of medical or surgical treatment seems to be more or less regulated at the present time. It is generally agreed that the treatment of uncomplicated early cases should first be medical, but those that resist medical treatment and have had several recurrent attacks, as well as those with hemorrhage, obstruction and retention, should be treated surgically.

Dever states, "In the last analysis the chronic indurated callous peptic ulcer belongs to the domain of the surgeon. Prolonged medical treatment of this type of ulcer is what I would term pussy-footing, in other words it is courting disaster in the shape of hemorrhage, perforation and, in a certain percentage of cases, carcinoma." As to recognition, it is very often found that the symptoms are indefinite: In one series of 160 cases, only 123 had characteristic symptoms; hunger pain was not present in 20 of 146 cases. Gall bladder trouble is generally suspected in these cases.

During 1923 at the Mayo Clinic, they observed 280 cases of chronic gastric ulcer, as compared with 1440 cases of duodenal ulcer; the ratio in this series is about one to five. In another large series, the ratio was about one to four. Gastric ulcers are more apt to cause hemorrhage than duodenal ulcers and are more subject to malignant degeneration. There are no cytologic changes in the duodenal tubules which suggest that carcinoma develops in them. In a series of 425 cases at the Mayo clinic, no carcinomatous duodenal ulcers were found; gastric ulcers are frequently associated with carcinomatous changes, while duodenal, by virtue of their being contained in a portion of the upper intestinal tract that has a smaller lumen, are more liable to construction and therefore pyloric obstruction. Wilson and McCarty held that 71 per cent. of 153 tabulated cases of distinct gastric carcinoma showed, microscopically and macroscopically, evidence of previous ulcer. Other series show that in about 60 per cent. of the cases of definite gastric carcinoma, there had been evidence in the history of dyspepsia, covering periods of from several weeks to several years, of symptoms that were thought to be due to peptic ulcer. The common complications are obstruction, retention with or without actual pyloric obstruction, hemorrhage, perforation and malignant degenerations.

Duodenal ulcers are usually in the anterior wall of the duodenum. Gastric ulcers are usually in the lesser curvature or posterior wall: both may be multiple. The majority of the duodenal ulcers are in the first 5 cm. of the organ. They are sometimes found, however, in other portions and have been found at the papilla of Vater with the opening of the common duct in the crater. Peptic ulcerations was found in 7.7% of 5884 adult cadavers. In 17 per cent. of the 140 cases of duodenal ulcer, perforation was the cause of death.

Etiology. The cause of peptic ulcer in unknown. Some believe that it is due to a high

*Read before Mercer County Medical Society, at Aledo, April 7, 1925.

content of gastric juice combined with low secretion of protective mucus. Others, trauma from within and external trauma. But the more recent work of Rosenow, Nakamura and others quite convinces one that focal infection offers the best explanation in a large number of cases. They were able to produce punctate hemorrhages in the mucous membrane of the stomach in the animals injected with strains from the patients with recurring hemorrhage without demonstrable ulcer; and the prompt disappearance of the patient's attacks following removal of the tonsils.

A pure culture of hemolytic streptococcus was obtained from the blood of a person who was found to have had acute ulcer of the stomach and duodenum as a result of extensive burns of the 3rd degree. The ultimate cause of peptic ulcers, however, is the digestion of devitalized circumscribed areas of the mucosa.

Symptoms. Usually the symptoms of peptic, gastric or duodenal, ulcer are quite definite. The history generally will reveal dyspepsia, sour stomach, which has been in existence sometimes for a number of years, with periods of improvement alternating with relapse. "Hunger Pain" is by far the most important symptom of active ulcer, coming on from one and one-half hours to four hours after eating a meal; The taking of baking soda or food will relieve this pain. These patients very often will have food at the bedside and when they are awakened in the night by this "hunger pain" eat to relieve it so they may return to sleep, they often place themselves on a diet by eliminating one article of food at a time from their diet in the belief that their dyspepsia is due to their inability to handle certain kinds of food. They also find that eating relieves the pain as does baking soda. Their diet is reduced by themselves to very light soft food with two or three hour periods between feedings. The lighter the diet, the earlier the pain and the heavier the diet, the later the pain. When there is considerable contracted scar tissue in the ulcer, there is delayed motility and retention; anger, chilling, fatigue and bad eating will precipitate an attack. The period of quiescence may last for weeks or years, symptom free with a sudden return to activity, severe bloody emesis or tarry stools or both, or signs of perforation (acute abdomen) announce the beginning of activity.

Diagnosis. The diagnosis is usually quite simple. A history of abdominal distress, pain or discomfort associated with eating with a more or less clocklike precision extending over a period of several days or weeks with periods of complete cessation of all symptoms followed by recurrences, is a diagnosis in itself. It is often found that with this history there can be found a definite point of tenderness on deep pressure a little to the right and above the umbilicus. The most reliable means of diagnosing gastric and duodenal ulcers is the x-ray. Gastric analysis (the Ewald meal) is helpful, but of recent years it has not been given the same consideration as it was formerly. It is sometimes found that people with a low percentage of free hydrochloric acid and low combined acidity have ulcer. In a recent investigation it has been brought out that people with ulcer who have been subjected to long exposure to the x-ray during gastro-intestinal examinations have an achlorhidria, but there is no doubt but what gastric analysis is a very useful procedure and in a suspected ulcer case if it is found that there is a high acid per cent. it is of considerable diagnostic value. It is not as useful an aid in the differential diangosis between gastric ulcer and carcinoma as it was formerly thought to be.

The examination of the stomach and duodenum has become one of the most important developments in x-ray work and all doubtful cases should be given a gastro-intestinal examination. By this means it is possible not only to demonstrate a lesion in the stomach or duodenum but also associated lesions in the gall bladder, appendix, kidneys and colon. The accuracy of roentgen diagnosis of gastric and duodenal ulcer is greater than is generally appreciated, not only as to their presence but as to differentiating gastric from duodenal ulcer. Carman has listed the roentgen signs of ulcer in two classes: *First,* primary and practically pathognomonic signs (a) Niche, (b) Accessory pocket, (c) Organic hourglass stomach; *second,* secondary and corroborative, but absolutely diagnostic signs—

a. Spastic manifestations
   (1) The incisura
   (2) The spasmodic hourglass stomach
   (3) Diffuse gastrospasm
b. Retention from the six hour meal
c. Gastric hypotonus
d. Acute fishhook form of the stomach
e. Alterations of peristalsis
f. Localized tenderness

g. Lessened motility of the stomach

In approximately 30% of the cases there is associated pathology, generally the gall bladder or appendix being involved.

Medical Treatment of Peptic Ulcers. The problem offered in the medical treatment consists of the arrangement of a diet that will permit the maximum amount of secretory and motor rest at the same time supplying the patient with sufficient food to cover his daily energy expenditure.

The Sippy diet in outline: Milk & Cream.... and Alkalines.

Give 90 c.c. of a mixture of equal parts of milk and cream at 7, 8, 9, 10, 11 a. m. and 12 noon and 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10 p. m.

Alkalines

℞ Bismuth subcarb. 0.6 gm.
Sodium bicarb. 1.3 gm.

at 7:30, 9:30, 11:30 a. m. and 1:30, 3:30, 5:30, 7:30, 9:30 p. m.

On the alternate hours—at 8:30, 10:30 a. m.; 12:30, 2:30, 4:30, 6:30, 8:30 p. m. the following:

℞ Mag. Oxide
Sodium bicarb. aa 0.6 gm.

Rest in bed. After two or three days, soft eggs and well cooked cereals may be gradually added.

Smithies Diet: From three to seven days, depending on the presence of pain—nothing by mouth except one-half ounce of warm tap water, orange or grapefruit juice—the patient is not disturbed in his sleep for feedings.

Proctoclysis—drop method
50% alcohol—one ounce
Glucose—one ounce
Normal salt solution—eight ounces.

Every four hours, for the first few days, ten drops of tincture of opium are added. The proctoclysis is gradually discontinued as the mouth feedings increase.

As soon as the patient is relieved of the gastric distress three to seven days, he is given strained gruels—oatmeal, rice, sago, wheat, four to six ounces.

From the second to the third week of the diet —barley water, zweibach, butter, milk, boiled milk, puddings, purees, custards, scraped beef and eggs are gradually added. One ounce of orange juice, grapefruit juice or water is allowed whenever desired during the treatment. The diet is continued for about six weeks.

There are many other diets which are well known—all have given good results.

They usually require hospitalization. Both tthe Sippy and Smithies diets keep the patient busy with their frequency or feedings. The contrast of these two diets is striking. Sippy, alkalines; Smithies, no alkalines, but in their stead, fruit acids. It is now accepted that fruit acids differ from mineral acids and they create alkalinity in the stomach secretions. We all see a number of patients with gastric or duodenal ulcer that will not be hospitalized. In these cases the medical treatment is often successfully carried out by a milk diet ℨXI every 2 hours for a week, then replacing one feeding of milk with one eggnog the eighth day, two eggnogs the ninth day, and so on until the patient is taking seven or eight eggnogs a day by the end of the 2nd week. During the third to seventh week adding gruels, purees, custards, rice, puddings, fruit juices, olive oil, fats, gradually. Alkalines may or may not be given. Mag. oxide powders may or may not be given—depending upon the relief of gastric distress and the ability of the individual to handle milk which is often very constipating. These people are told to rest as much as possible but can usually remain at their given occupation. It is amazing the favorable results and apparent cures one sees from this type of treatment.

Surgical Treatment of Chronic Gastric and Duodenal Ulcer. There is considerable controversy as to the best type of operation. The tendency of late in some of our larger clinics is to advocate radical measures of resection with often removal of large portions of healthy stomach. There are some cases of gastric ulcer where malignancy might be suspected, in which there may be indications for a pylorectomy and gastroenterostomy or excision of the ulcer and gastroenterostomy and various others forms of treatment for the ulcer, as cautery excision, infolding of the ulcer, and in large ulcers, resection, with a sub-total gastrectomy, with a Polya type operation. But it is certain that a posterior no loop gastroenterostomy will give a satisfactory result in a large number of gastric ulcers. In duodenal ulcer there has been much said as to the value of excision of ulcer and pylorectomy versus gastroenterostomy. Of this E. J. Judd states.

"I am convinced that the excision of duodenal ulcers will never become general or take the place of gastroenterostomy."

The more radical the surgical procedure the higher the mortality. Many of our best surgeons still believe that posterior gastroenterostomy without occlusion of the pylorus is the best type of operation. There is no doubt but what 75% to 85% of all pyloric and duodenal ulcers are permanently relieved and cured by gastroenterostomy. This is particularly true in duodenal ulcer and four out of five ulcers are duodenal. They do not have a tendency to become malignant. The fear of secondary ulcer at the anastomosis has been much overestimated—from the statistics of many of the larger clinics it is found that about 2% of the gastroenterostomies are followed by secondary ulcer marginal, or at the anastomosis. If medical treatment is accepted as the treatment of choice in early uncomplicated ulcers, it certainly is indicated as a prophylactic procedure to be followed immediately after gastroenterostomy. Also that if it is conceded that focal infection is an etiologic factor in ulcer that the removal of foci of infection should be preliminary and routine in patients who are to have a gastroenterostomy. These foci are usually found in the tonsils, teeth, sinuses, gall bladder, colon, appendix, cervix and prostate. It seems quite possible that the number of these secondary ulcers can be minimized by complete removal of focal infection and intelligent post operative medical treatment.

Technique for Operation and Post Operative treatment.

GASTROENTEROSTOMY

Preparation: Usual abdominal preparation, dry shave and full strength iodine which is removed with alcohol.

Incision is made to the right of mid-line from the ensiform cartilage to a little above the umbilicus, through the skin and subcutaneous tissues, external sheath of the rectus, splitting the muscle fibres of rectus, then incising the posterior sheath of the rectus, and the peritoneum. *After* the abdomen is open and the wound well retracted, the stomach is brought into view and examined carefully for pathological changes, and if the ulcer is in the pyloric end of the stomach or in the duodenum, a place is selected on the posterior wall of the stomach for the new opening. The omentum, if not seen on opening the peritoneum, will then usually be found lying rolled up along the lower border of the stomach. It is to be brought out of the wound and turned upward, protected with gauze laid upon the abdomen; on its lower surface is the colon running transversely from right to left.

The mesocolon is now opened with a pair of blunt tissue forceps without teeth. The position of the posterior wall of the stomach selected for the anastomosis site is brought through the mesocolon and protected; intestinal or stomach clamps are applied.

Follow the transverse mesocolon down to the spine and the commencement of the jejunum will immediately be felt and can be seen coming through the mesocolon, with the ligament of Treitz running from its upper border to the parietal peritoneum.

Bring up the commencement of the jejunum as it emerges from the transverse mesocolon and apply the protected clamps, being careful not to change the direction of the bowel. A small strip of sewed gauze eight inches long with a forcep at either end is interposed between the stomach and the bowel. The exposed portion of the stomach and bowel is now well walled off with large wet sponges.

The serous suture is now begun. For this a very fine Pagenstecker linen and a straight needle. The suturing is started from the right side of patient through the serosa of the bowel and stomach and continued across the area to be opened. The suture is locked at the last stitch and the needle and unused portion of the suture is wrapped in a wet sponge until it is needed later.

Now the stomach is opened, an incision made about an inch and a half long, through the serosa and muscularis down to the mucosa. The mucosa is now opened and any material carefully wiped away so as not to contaminate the wound. A small piece of mucosa is clipped out. The same procedure is done to the intestine.

The suture of the mucosa is now begun—for this 00 chromic catgut on a straight needle is used. The greatest care must be exercised at this stage of the operation. If the minutest part of mucosa is missed, serious and probably fatal hemorrhage will ensue. If the suture is drawn too loosely there is the same danger of hemorrhage, and on the other hand, if the suture is

drawn too tight, it will cut through. It is really the most important part of the operation.

This suture starts on the serosa of the jejunum through the mucosa, then back through the mucosa out through the serosa again, then through the serosa of the stomach and mucosa back through mucosa and serosa, then continued through the posterior side of the opening, completely closing off the new opening in the jejunum and stomach. The beginning and finishing ends of the suture are now tied and cut short so that the knot will be buried outside the stomach and under the suture line in the serosa.

It is well to use a small tenaculum with a needle-like hook to tighted up the sutures and take out all the slack before tying. The unused portion of the Pagenstecker suture is now used again and this line of suture in the serosa is continued around the anterior surface of the opening to the point of its commencement. The sutures are now tightened with the tenaculum hook and tied, and the ends cut short.

Two Pagenstecker sutures (interrupted) are now put in on either side of anastomosis through the serosa of stomach and jejunum. These are to act as stay sutures and are very important, for if there is any distention in the stomach or bowel from gas, the strain will come on these sutures and not on this anastomosis.

The anastomosis is now carefully examined to see that it is water tight and not bleeding.

The clamp and strip of gauze that were interposed between the bowel and stomach are now removed. The mesocolon is drawn back over the stomach and sutured by three or four interrupted Pagenstecker sutures, to the edge of anastomosis. The stomach, colon, omentum are now replaced and abdominal wall sutured in layers.

POST OPERATIVE TREATMENT

1. Nothing by mouth.
2. Head of bed raised 16 inches.
3. T. P. R. every one-half hour for three hours, then 3 hours.
4. Blood pressure taken every hour for three hours.
5. Heroin gr. 1/12 if necessary.
6. In 48 hours after the operation the patient is required to sit up in bed, or if condition permits, in a chair; and within another day or two is allowed to walk about.
7. After the first or second day, a low 1-2-3 enema is given, to empty the colon.

The upright position greatly facilitates drainage of the stomach. It is highly important that the colon should be kept empty and free from gas, for if it becomes distended it will stretch the anastomosis and interfere with its function.

Occasionally, immediately after the operation there is emesis. This is usually caused by blood admitted to stomach during the operation. It need not be a source of great worry.

Occasionally there is some regurgitation of bile in the stomach with bile in the emesis shortly after the operation. This usually stops after a day or two.

Post-operative Feeding:

Day of Operation: Nothing by mouth. Heroin, gr. 1/12 hypo as needed. Proctoclysis, 6 oz. every 3 hrs. (Proctoclysis 1,000 c.c., Sodium bicarbonate 3 drams).

Day after Operation: Same as first day.

Second Day (48 hrs. after operation): Tap water, drams 2, every 2 hrs. for 3 or 4 times. Then drams 2 every hr. for 3 or 4 times. Then drams 3 every ½ hr. (if no emesis). If well tolerated water is increased to ounce 1.

Third Day: Tap water drams 4 every ½ hr. for 3 or 4 times. Then alternate every ½ hr. with milk and lime water, equal parts. Oatmeal gruel drams 2 can be given in place of milk and lime water. After a few days, if there is no emesis, increase milk and lime water to one ounce and tap water to one ounce every hour as follows: 1:00 milk and lime water, ozs. 1; 1:30 oatmeal gruel, drams 1; 2:00 hot tap water, ozs. 1. This to be repeated.

Fourth Day: Chicken broth, drams 1. Oatmeal gruel, ozs. 1. Milk and lime water, ozs. 1. One of the three can be given to alternate with hot tap water so that the dose is given every ½ hr. The total liquids now should amount to about 30 ozs. and the gruel and milk and lime water about 9 ozs.

Fifth Day: Same, unless emesis. If they should have emesis, stop all except hot tap water, drams 2 every 2 hrs. and start proctoclysis, either drop method 2 hrs. on and 2 hrs. off or 6 or 8 ozs. as retention enema. Fluid used is tap water, 1,000 c.c. and sodium bicarbonate, drams 3.

Sixth or Seventh Day: Fruit juices may be added in oz. doses.

Ninth Day: Custard, ozs. 6 and chicken soup, ozs. 6.

Tenth or Eleventh Day: Baked potato, ice cream, all soups and gruels.

To follow P. O. feeding: After ten days mashed potatoes, cereals, ice cream, cream soups are given in small quantities, increasing the amount daily if it is tolerated. By two weeks the patient should be on a liberal soft diet; gradually articles of regular diet are added to tray until the diet is about normal. Any article of food that is not well tolerated should be avoided.

Milk of magnesia may be given in 2 dram doses at four hour intervals, at the end of 48 hours after operation, to move the bowels.

Sutures are removed in seven or eight days.

Enemas should be given if there is any distention in the colon, as this will be a strain on the anastomosis and will interfere with the function of the new opening.

Conclusion: That the old calloused duodenal and gastric ulcers that have existed for some time with many recurrences of symptoms as well as those ulcers which cause obstruction and hemorrhage should be treated surgically.

That gastroenterostomy is the best type of operation and will give satisfactory results in about 75% or 85% of the cases.

That the occurrence of secondary ulcer marginal or at the anastomosis can be further minimized by the removal of all focal infection and intelligent post-operative medical treatment.

Central Trust Bldg.

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DISCUSSION ON DIATHERMY IN GENITO-URINARY DISEASES*

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During the past five years my associate Dr. B. C. Corbus and I have been attempting to utilize diathermy for the treatment of genito-urinary conditions. In many instances this more accurately controlled method of heat induction has been used in conjunction with other older methods of treatment but in some it has entirely supplanted our previous procedures.

The special electrodes for endocervical, urethral and scrotal applications were designed by Dr. Corbus and are a distinct advance in the utilization of diathermy in these structures.

EFFECTS OF HEAT UPON THE GONOCOCCUS

It is a well known fact that the gonococcus has a very low resistance to even slightly increased body temperature. One who is familiar with the management of gonorrhea in the male is frequently impressed with the number of "spontaneous cures" directly following a severe epididymitis or prostatitis which has been accompanied for a number of hours with a temperature of 102-103° F. We have repeatedly seen the gonococcus disappear permanently from the urethra during acute respiratory infections, such as influenza or pneumonia, in which a temperature of 102 or more degrees had persisted for more than several hours. The pyrexia of typhoid has accomplished complete riddance of the gonococci in several of our patients.

Unfortunately the majority of bacteria are even more resistant to induced heat than a given normal body cell and, therefore, cannot be destroyed in the living organism directly without attendant tissue extinction. This is not true of the gonococcus. It has frequently been demonstrated that the gonococcus is instantly destroyed at a temperature of 113° F. or at 104° F. prolonged for six to eight hours. Where the gonococci can be localized in the tissues an exposure to 108° F. will destroy them in thirty or forty minutes.

Gonorrhea in Women: The sedative effect of a single diathermy treatment to the female urethra is most gratifying. In the average case the gonococcus cannot be found in the urethral strippings after one or two treatments. It is well known that under ordinary methods of treatment the gonococci do not persist in the urethral mucosa for prolonged periods, unless there is co-existent infection of the para-urethral glands. However, their more rapid disappear-

*Read Before the North Shore Branch Chicago Medical Society April, 1925.

ance after diathermy has been uniform and the absence of subsequent para-urethral infection tends to the belief that the urethral application is valuable for preventing this complication.

In forty-one instances of acute gonorrhea in the female, where this type of heat was directed to an infected urethra in which no evidence of para-urethral infection existed at this time, only one developed this complication later on. On reviewing the records of forty-eight cases in which diathermy treatment was continued to a complete cure of the urethral infection, we find that in only three was it necessary to treat the urethra more than three times.

In advocating diathermy as an improved method of treating gonorrhea in women we realize that any claims for a permanent cure must be based upon a long continued observation. During the past five years we have had the opportunity of repeatedly examining many of these patients and have been able to satisfy ourselves that this method brings about a complete and permanent elimination of the gonococcus.

Fifty-five women have had continued treatment by this method. Of this number twenty-four have been observed repeatedly during the past three years. Thirty-eight were checked for two years. The others were not seen after the cessation of active treatment and were not available for observation after the three month period following the application of their discharge technique.

Infection in Skene's and Bartholin's glands are treated by direct destruction with diathermy.

Chronic salpingitis gives uniformly good results when treated by diathermy alone. Increased vascularity and free drainage through the cervix probably account for these results rather than the direct bactericidal effect.

Gonorrhea in the Male: Because of the anatomical variations of the male urethra we have been unable to standardize a method which will successfully induce the required amount of heat necessary to destroy the gonococcus in most instances.

In the complications of male urethritis diathermy is of the greatest value. Peri-urethritis, cowperitis, prostatitis, epididymitis and arthritis are amenable to diathermy treatment in most instances. It goes without saying however that where frank suppuration exists surgical drainage is also necessary.

Surgical Diathermy: The "surgical" application of diathermy implies the induction of heat beyond the physiologic tolerance of normal cells. We have used it successfully in genito-urinary diseases in treating common warts, verruca acuminata, caruncle of the female urethra, prolapse of the female urethra, urethral polypi, ureterovesical cysts, carcinoma of the penis, female urethra and bladder.

Prior to July 1, 1924, we had treated twenty-eight cases of carcinoma of the bladder by diathermy. Five cases had transurethral treatment only; four cases were subjected to a combination of transurethral and suprapubic treatment and nineteen had suprapubic diathermy alone. In this series there was one hospital death. In the remaining twenty-seven there have been three deaths. Of the remaining cases twenty-two are free of recurrence after eighteen months, twenty after two years, fifteen after two and one-half years, and seven after four years. Three patients have had recurrence of carcinoma in the bladder during the past year. Two of these have been again treated by diathermy and are living while one died with metastatic involvement.

Of the cases in which no recurrence has taken place, all were clinically and objectively malignant. Of these fifteen were verified by microscopic examination. In addition to apparent cure, the very satisfactory urethral and bladder function is notable. The smallest bladder capacity in any of these patients is six ounces and practically all have regained normal capacity and are free from distressing urinary symptoms. In no instance have we burned through to the rectum or vagina.

The successful use of diathermy in genito-urinary diseases depends not alone upon suitable apparatus and equipment but upon scientific application based upon intelligent judgment, and accurate diagnosis.

One should as carefully accept the good results as he should be slow to condemn the failures until he has carefully studied the method and has had a sufficient and honest experience in its application.

30 N. Michigan Ave.

SOME THINGS THE PUBLIC OUGHT TO KNOW ABOUT SCIENTIFIC MEDICINE. WHY NOT TELL THE PATIENT ABOUT THE DISEASE THAT KILLS HIM?*

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CAIRO, ILL.

From year to year it has become more and more apparent to me that the proven facts of scientific medicine have not been laid bare to the public as they should be by the regular, educated medical profession. The pretenders who teach false doctrines are brazenly flaunting their bunco before our people, both by the spoken and printed word. The evidence they offer is chaff and would not be accepted for a moment by any scientific body who requires verification of what is asserted. A surprisingly large per cent of people will accept as true, the statement by a faker from a soap box on the street, without any demand for proof whatever. The printed advertisement, paid for by a lying scoundrel, is accepted in the same way. They shut their eyes and gulp it down without question.

The educated, scientific man who has proven facts for his guidance has shrunk from these methods of the conscienceless quacks and has surrendered the field of public education on health and disease to these brazen mountebanks. The scientific physician who is guided by established truth and the instinct of honor, has been bluffed by these unblushing pretenders. He has been and is now, too modest. He does not tell the people enough about the achievements of medical science and the conclusive evidence that these achievements are based upon. It is stupid for us to assume that our patients know these things without being told. The quack boldly announces a falsehood. The man whose service rests on demonstrated truth recoils from publicity lest he might appear like the fraudulent pretender. The laity suffers the consequences. In discussing the absurdities of some of these conscienceless crooks, with thoughtful friends possessed of analytical minds, they have exclaimed: "Why don't you doctors who deal in proven facts of science expose these imposters?" The answer is the people won't allow us to show them. They say we are selfish and prejudiced. The world's greatest showman, P. T. Barnum, who became a millionaire, coined a phrase which is familiar to everybody. He said, "The people love to be humbugged." This seems to be a great truism. Let me illustrate. Very recently I fell into a discussion with an excellent lady friend who is a believer in Christian Science healing. She started the tilt by enthusiastically directing my attention to a large sum of money that had been raised and contributed to the tornado sufferers in Missouri, Illinois and Indiana by the Christian Science people. She quoted the contribution from Chicago and Boston. Before I had time to put on the brakes, I exploded with the declaration that it would require a lot of money from certain people to offset the harm they do. That raised her temperature to a dull, red heat. I said, "You don't understand the principles of this doctrine you advocate. You don't know how it originated nor the motive of the originator. You don't know how utterly unscientific it is." I said to her that I had a little book that turned this thing inside out so that anybody could understand; that I would give her $10 if she would read it. "No!" she exclaimed, "it is prejudiced. I wouldn't read it." There you are. How can scientific medical men who deal in proven truth protect such people? Nobody objects to Christian Science as a religion. This great Republic of ours grants a wide range of freedom to all forms and creeds of worship; but when a religious sect undertakes to deal with the causes, prevention and cure of diseases that kill people, they must "deliver the goods." They must show us, particularly if we are from Missouri. The greatest war in history has ended so recently that it is fresh in all our minds. Millions of people were in arms and hundreds of thousands went to their death. The science of medicine and surgery, through its noble disciples—educated, trained and equipped—boldly went to the front and prevented more hundreds of thousands from going to their death. They knew that the deadly blood poison was due to a living germ which they had seen under the microscope and which needs only an open, raw surface on the injured person for its implantation and proliferation. That is a favorable soil. They knew how to treat that soil with antiseptics so that this deadly microbe could not live in it. They knew that the fatal disease, called lockjaw, was admitted to the human body under similar conditions and that they had a

*Read before the 51st annual meeting of the Southern Illinois District Medical Society at Mount Vernon, Ill, November 6, 1925.

serum which, when injected into the blood of the wounded soldier who had been exposed to this fatal, living germ, his body was transformed into a soil that the parasite could not develop in. These medical heroes knew that, in the Spanish-American war, a quarter of a century ago, more of our boys lost their lives from typhoid fever than from the weapons of the Spanish army and navy. They knew that the micro-organism known as the Bacillus typhosis was the cause of that mortal disease and that it could not develop in the blood of a patient who had been vaccinated with anti-typhoid serum. They protected their patients in the world war and saved their lives. Typhoid fever was negligible in the world war. In the Spanish-American war, in 1898, one division of our men, comprising 10,759 soldiers, had 4,422 cases of typhoid fever. Think of it! Nearly half the division was stricken; 248 of them died. The World War came 20 years later. Vaccination against typhoid had been discovered. What happened? Only one of our boys in every 3,756 contracted typhoid fever, and only one in every 25,641 of them died. The parents of these boys will be interested to know who made this wonderful change possible. They are more interested in what scientific medicine did for those they loved than they are in what the cults didn't do. Why not tell them on occasions like this? Who else will tell them? It looks more like cowardice than modesty if we fail to do it. It looks like the blatant, unscrupulous quacks have us bluffed. They cannot deliver the goods. We can do it; have done it; are doing it and are going to keep on doing it.

Now, how was this great blessing vouchsafed to our boys in the trenches? Did the Christian Science healers do it? Did the osteopaths and chiropractors do it? Did any other of the two dozen pretending cults do it? I have seen no such record of them. I have no knowledge that the Surgeon General of the United States Army or United States Navy called them into consultation in this great emergency. Why? Had they not been through high school and had four years in medical college? No! Had they not been trained in laboratory research and the use of the microscope? No! Had they not seen the living germ that causes typhoid fever, lock jaw, blood poison, dysentery, malaria, yellow fever, bubonic plague, consumption, cholera, diphtheria and numerous other deadly microbes? No! Could they not transfuse blood into the veins of our prostrate boys who lay pale and helpless on the battlefield? No! Could they not straighten, drill, wire and splint broken bones? No! Could they not locate, catch and tie wounded vessels out of which the very lives of our boys were pouring? No! It is fair to assume, however, that the Surgeon General of the Army, the Surgeon General of the Navy and the Surgeon General of the United States Public Health Service thought such knowledge and training was necessary.

Nothing is more certain in the world than that the educated, scientific medical profession have established the almost miraculous prevention and cure of disease. The activities of these educated, scientific research workers and technical executors of the achievements, provide the beneficence and glory of modern medicine. It is gratifying to know that many of the learned laity have grasped these facts. It must be remembered that the educated laity in all departments of life are directly or indirectly the mentors who point the way for the countless multitude of uneducated and untrained thinkers.

In this connection I was much impressed by a paragraph in a wonderful address by the President of the American Bar Association at Detroit, Mich., on September 3, 1925. It shows the trend of the lay conception of the achievements of modern medicine. In contemplating this paragraph it should be borne in mind that the orator that spoke it is no ordinary American citizen. He is a great lawyer, a great statesman, a great sociologist and a great diplomat. He has been honored by a seat on the Supreme Bench of the United States. He has been honored by a place in our President's Cabinet, which is next to the Presidential Chair itself, and now enjoys that coveted and high honor of the presidency of the American Bar Association. I refer to Hon. Charles Evans Hughes. The quotation from his presidential address on September 3d follows:

"Yet it is with respect to the freedom of learning that we find a disposition to impose restrictions which cannot fail to give us grave concern. It is to be observed in the field of medical research. What department of intellectual activity is more important to a free people? Of what avail are the privileges of life, if we do not live? Of what gain is liberty, if we succumb to the ravages of communicable diseases? Of what

value is government, if it puts research under ban and permits the spread of plagues which knowledge may prevent? In what area of endeavor has there been such fruitage as in preventive medicine, saving countless lives and putting an end to indescribable agonies of human beings? Yet we observe persistent attempts in our legislatures not only to impair the immunities already gained, but to hamper scientific investigations through which alone the scourges of disease now beyond remedy may come under control."

What does this word cult mean? It has come into frequent use, late years. It means, "An object of great admiration, devotion and attention." It comes from the Latin-word *cultus,* which means worship. In combating false doctrines many serious questions arise. The problem of preventing and curing disease and saving human life is more serious than the problem of acquiring or saving human wealth. It cannot be treated frivolously. Whose duty is it to teach the people what causes disease, misery and death? Should the educated, scientific, rational medical profession do it; or shall the cults do it? The one deals in truth, based upon the facts of dependable evidence; the other upon plausible theory and fiction.

If the former must take the responsibility, how shall they go about it? How can they sift the wheat from the chaff so that it will be clear to the masses who need it? Many forward looking people are coming to believe that the best way to attack false doctrines in medicine is not to attack them at all. The attack method too often arouses sympathy for them. Sympathy naturally runs to the under dog in a fight. They hold that the most effective method is to array, in bold, clear relief, the indisputable, incontrovertible evidence that proves the facts of science. I am inclined to agree with this attitude. It is more impressive to offer positive proof of what we can do than to lambaste the bunco steerer for what he cannot do; yet it occasionally seems necessary to expose his absurdities to the public gaze.

While formulating this address I glanced at a weekly paper, published within twenty-five miles of Cairo, in a town where members of the Southeast Missouri District medical society practice scientific medicine and here is what I saw:

"A TERRIBLE GOITRE

Removed Without Operation. Mrs. Cox Tells How. Was Short of Breath. Eyes Bad. Could Not Work. In Bed Part of Time. Stainless Liniment Used. Mrs. Dot Cox says: 'Come to 40 Prospect St., Delaware, Ohio, and I will show you what Sorbol-quadruple has done for me. If you can't come, write.'
Manufactured by Sorbol Company, Mechanicsburg, O. Sold by all drug stores. Locally at ——'s Drug Store."

Now, why don't the people in that town who have goitre ask the family physician if that stuff will cure them? Why don't the family Doctor order the stuff in his prescriptions? The patient knows that the family Doctor will do anything on earth to cure his patient. The answer is that the Doctor knows the stuff will not cure his patient.

Now, the druggist who fills the prescriptions for the doctors who are trying to give the people a square deal, is co-operating with these impostors and supplying the scientific doctor's patients with this slop. Is that consistent? Is that honest, fair and just? Would you laymen like for your family physician to run an Ad. like that in your home paper? Don't you think such a practice would put him on the same plane with the bunco steerer? The scientific man in medicine must enlighten the public for the protection of the public; but he cannot do it by the method quoted above.

THE NERVOUS PATIENT AND THE GENERAL PRACTITIONER

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Organic diseases are discussed far more frequently before medical societies than are functional disorders. And yet the latter, to put the situation gently and mildly, are by no means uncommon.

This subject is important not only because of its frequency, but also because of the difficulty in controlling such patients. Furthermore, not sufficient thought is given to their handling and hence the many failures. This is responsible for their flight to the medical cults, isms and fads, not to mention medical quackery.

Now, whether we like it or not, the nervous patient is here with us, and, unless we wish to drive him to the cults and isms, we must learn to recognize him, to become interested in him, to study him and to handle him. If we do not do this, others, much less qualified than ourselves, will do so. In fact others have already done so in great measure.

This subject is important to the average physician and the general practitioner for other reasons. In the first place, there is a nervous and mental aspect to every case of illness of organic nature, whether within or without the nervous system itself. In fact, it is because of his apprehension, anxiety, fear, uneasiness and restlessness that the patient seeks the physician. In every case, therefore, in addition to any possible organic disease we must appreciate that there is a nervous and mental aspect which must be recognized, reckoned with and treated. Often the nervous and mental aspect may be of more significance than the organic condition present. A failure to attend to the nervous and mental condition of the patient may lead to a loss of control of the latter, the wrong impression upon him, and an inability to get favorable results because of the lack of cooperation by the patient.

The importance of differential diagnosis between organic and functional disorders is being appreciated more and more by the general practitioner. Of the mistakes in diagnosis, two of the most common are that too frequently functional diseases are diagnosed as organic and organic diseases are diagnosed as functional.

It is for this reason that no one not a physician is in a position properly and safely to exclude organic disease to begin with—and before diagnosing a purely functional disorder we must be able to exclude, unquestionably, organic disease as the direct cause. Thus one must exclude local pathology in all cases where localized symptoms are complained of and there is any suspicion of local organic disease.

But just as there is need of the physician being able to exclude organic disease, so also is there need of his being a good practical psychologist and a student of human nature and behavior. For this, a careful sequential history, a complete physical examination, with the necessary laboratory work, repeated if there is doubt, is necessary.

It is understood, then, that the physician has considered and excluded such conditions as early tuberculosis, cardiovascular-renal disease, hypertension, hyperthyroidism and the like, and that organic neurological conditions such as cerebrospinal syphilis, general paresis, multiple sclerosis, etc., have also been ruled out. Likewise intoxication by alcohol, lead and the rest will be presumed to have been reckoned with and excluded as etiological factors.

Granted that we have a truly functional nervous condition to deal with, how shall we handle it?

ILLUSTRATIVE CASES

To force home the issues involved I can do no better than cite a few illustrative cases and then hinge my discussion thereafter upon them as a foundation.

Case 1. A young woman, 22 years of age, single, seen in April, 1924. The duration of the present trouble was three years; she had been out of work for two years; and she had been gradually getting worse.

The symptoms of which the patient complained were tremors and trembling of the hands, face and lips, pressure feelings about the heart, fatigue, poor appetite, a loss of fifteen pounds in weight, and constant crying spells. She was convinced that there was some physical disease responsible for her trouble. She had been in the hands of many different physicians and had been under the last physician's care for about one year, having been treated by injections for the past half year. She had become desperate about her condition. The family did not know which way to turn, and so they went to their former family physician, who referred the case to me.

Careful, repeated physical examination showed no evidence of tuberculosis, hyperthyroidism, cardiovascular-renal disease or any other definite physical disorder. The usual laboratory tests, including metabolism and stereoscopic x-ray of the chest were negative. And yet, there were her complaints. To dismiss her and tell her that there was nothing the matter with her and advise her to forget it, when she had had trouble for at least three years and had been unable to work for two years—to act thus is but to throw up one's hands and drive the patient to extreme measures; in fact, to drive her from the medical profession straight into the welcoming arms of the medical cults and quacks who are ever ready and anxious to receive her.

A careful sequential personal history and personality study were surely in order. Such a procedure revealed the following: The patient was definitely of the shut-in, non-cooperative type. She at first denied that there was any problem in her personal life responsible for her trouble; she became irritated at any efforts to probe into her private mental life; she insisted that her condition was due to physical disease, and she demanded medicine which would cure her.

For the first few visits, especially until I myself had become convinced that her condition was functional and not organic, I prescribed sedatives. This gave her faith temporarily, satisfied her demand, and controlled her tendency to cry. I gradually let her know that in addition to any medicine that she received, it was necessary for her to become confidential with me and to discuss her personal problems with me or she would not be cured. Finally she agreed to answer any ques-

tions I asked. She next agreed to go without medicine. Gradually she entered into free, spontaneous discussion of her personal difficulties. She admitted that she was very self-conscious; that she feared to look others in the eye when she spoke to them; and that she not only did not like to but even feared to meet other people.

To make a long story short, she kept to herself, was not mingling with others socially, was not working, feared social relations, and spent most of her time bemoaning her fate, restless, dissatisfied, crying, depressed, unhappy. She ate little. She lost weight. She become easily fatigued. Her hands trembled. She became convinced that there was some internal physical cause of her condition—perhaps in her brain or in her heart, or in her pelvis or somewhere else. Not knowing how to solve her problem she naturally sought medical advice to find out the organic cause of her condition and to cure her by medicinal measures.

She was willing to subject herself to any treatment to be cured. I have no doubt that, like many other patients of this type, she would have agreed to any proposed surgery which guaranteed her a cure.

The personality study showed that she was small in stature, delicate in makeup, nervous, sensitive and not good-looking. She felt herself inferior to others because of this and gradually withdrew from life's struggle. She dressed decidedly unbecomingly. Convinced of her inferiority, she indulged in morbid introspection, self-observation and self-analysis, with marked self-depreciation and self-accusation. This led to increasing self-consciousness and fears of all sorts. This increased her nervousness and led to tremors. She became certain that others could notice her reactions and this further embarrassed her, so that eventually she came to fear social contacts of every sort, did not look others in the eye, and isolated herself more and more.

There was no definite evidence that the sex element played any special role in this case.

The cure was effected by first showing the patient that her trouble was not physical in origin but due to the way she was handling her life's problems, including her own personality; that it was positively and wholly curable; and that cure would be effected by changing her viewpoints and attitudes and her ways of thinking, feeling and acting—of living.

As a result of discussion, she gradually adopted a new philosophy of life, she developed faith and confidence in herself, with more and more self-assertion. She went horseback riding. She joined a gymnasium class. She began to go to lectures. She felt herself overcoming her shut-in, isolation tendency, her overtimidity and her hesitancy. She finally decided to take a vacation and to go to a summer resort—to try it for two or three days, to see how she would get along, she said. To her great surprise she found that she liked her companions so much and they were so pleased with her that she stayed for two months. Following this she attended a commercial school, took typewriting and stenography four nights a week, joined an effective speaking class by day, and tried her best to make friends. She began reading books and magazines on optimism and achievement, found herself smiling and laughing more and more, and finally looking people in the eye. In short, she became a changed personality. She returned to work. She is now a self-starter, directing herself and thinking for herself. I think she will stay well and get better month by month. At any rate she is started in the right direction.

If she had not been handled in the manner above described she would have gone from bad to worse; even full-blown dementia praecox might have developed, for she was non-cooperative and shut-in and was clearly headed in that direction.

Certain it is that medicines or other physical measures alone would never have cured her.

Case 2—A young business man, aged 28, was brought to me by his brother in May, 1924. The complaints were that he had been constantly crying like a babe; he denied that he knew why; he also suffered from insomnia and loss of appetite; he had lost 12 pounds in weight; he could not attend to business. His condition was getting worse. He was becoming frantic and panicky. He admitted feelings of indecision, lack of self-confidence or faith in self, with self-depreciation and self-accusation. He felt incompetent. Ideas of suicide came to mind. He could not go on with business. He implored help. His condition had been gradually progressive for one-half year past, with insomnia for the preceding two months.

Careful physical examination, including the necessary laboratory tests, showed no evidence of organic disease within or without the nervous system.

He at first denied that he knew the reason for his condition. I assured him that it was not organic and that he would positively get well. Hydrotherapy and hypnotics were at first employed temporarily for his insomnia, with sedatives by day. Finally he admitted that his condition had been getting worse for about a year past, due mainly to worry centered about plans for marriage. He had married two months ago, had started a new business venture and feared the outcome. Then came regrets for his lack of progress before marriage. He became very envious of the success of others and very desirous of immediate and assured financial success and of being in a position of equality and security enjoyed by his brothers and others. Envy, jealousy, constant comparisons, feelings of inferiority and incompetence and their offspring came more and more to dominate his mental state. Continual mental conflicts on this subject led to insomnia, and this to fatigue, anorexia, and increased emotionalism. Other symptoms were soon added.

Under the initial treatment above mentioned the crying soon ceased. Insomnia was then controlled Plenty of rest, sleep, food and water were assured. For the first week he went to work only one-half of the day. The amount of work was increased until he was back on a full day's work every day. He was cautioned to do things slowly, quietly, calmly, systematically. Various means of gaining poise were suggested. He gradually accepted a sensible philosophy of life. In a few weeks he was himself again.

The cure in this case was effected with little loss of

time from business, and without sending him away from his home, although his family, fearing brain tumor or what not, were willing and even anxious to send him to a private sanitarium, or California, or do anything else I suggested.

Case 3—A single woman, aged 24 years, first seen in April, 1924. She complained of frequent headaches, dizzy feelings, a dazed mental condition, insomnia, feelings of weakness and an inability to attend to business. This syndrome was of several weeks' duration. She suggested that an x-ray of the skull might be indicated to discover the cause of her condition.

Physical examination was negative. Analysis showed that until a few months ago she held a very desirable position of the sort she liked. The organization failed. She then went in for house-to-house canvassing. She thoroughly disliked it and was dissatisfied She could not put her best efforts into it and was doing poorly financially. This caused added worry. Then came insomnia, dizzy feelings, and headaches.

The solution lay in getting her to go back to work as stenographer, a position she had once held, but the thought of returning to which she could not at first entertain because it was quite a descent, in her eyes, from the position of freedom and authority which she had recently held. I showed her how it would temporarily solve the situation. and she could keep her eyes open for a better position at the same time.

Finally she adjusted, her symptoms disappeared, and she became her old self again.

Case 4—A woman, 35 years old, with neurasthenia and hysteria, in bed for the past nine months, and in bed much of the time for the preceding six years, was found to have a pronounced condition, the origin of which was traced to domestic conflict, with final separation from her husband. By physical and mental measures she gradually was restored to health. Eventually conciliation with her husband was brought about and she is now a healthier, happier and wiser woman.

Case 5—A married woman, aged 36, wife of an active newspaperman, for several months had been having constant outbursts of crying. She denied that she knew the reason therefor. Physical examination negative. Menses normal and not related to her condition. A study of the case showed that her trouble was due to a too lonesome life. She lived at home with two children, and in addition to having no help with her housework, she had no social life, belonged to no social organization and only occasionally went to the movies. Cooperation by the husband brought about a change of home and living conditions, life became fuller, and the patient was cured.

And so these cases go. There are all types, with all kinds of symptoms and all manner of causes. But all of them show the ultimate psychological origin of the condition.

THE BASIC CAUSE OF FUNCTIONAL NERVOUS DISORDERS

These cases show clearly that it is as much of an error to look at disease from a purely organic viewpoint, as it is to regard it from a strictly psychological standpoint.

One cannot hurry with these patients. One must give them plenty of time. Little progress can be expected without the full establishment of confidential relations between patient and physician.

The essential characteristic of nervous conditions must be recognized as that of nervous and mental instability, discord and conflict. It is found that personal conflicts, based on real or imaginary grounds, are the fundamental cause of functional nervous disturbances.

The few illustrative cases given above show that in the face of disappointment or disaster, we may resort to dreaming instead of working, to fear instead of courage, and that functional nervous disorders may be the end-product. They are thus essentially disorders of the personality.

In organic diseases not so much attention need be given to the personality, although even here, as I have already said, it must not be neglected; but in functional nervous disturbances it is the primary and fundamental question. This is because of the fact that functional nervous disorders have their birth in personal relations. As Emerson[1] has well said: "A functional symptom means that that is the best the patient can do, under the circumstances, considering his knowledge, wisdom, and what he is up against. It is a sort of personal equilibrium, in his relations to other persons; a poor equilibrium, but his own."

They are evidences or symptoms of personal failure, and their causes lie for the most part in personal weakness, ignorance, poor judgment and lack of wisdom which in turn are themselves dependent upon personality, social opportunity, education, training, and personal care.

When losing in life and disappointed, when there is a gap or a conflict between the powers and the desires of the individual, disorganization of the personality may result, and maladjustment or maladaptation is the outcome.

All of us meet with obstacles to the satisfac-

tion of our desires and hence undergo mental and personal conflicts.

When the pressure of obstructing reality becomes too great for any of us, there is a tendency to avoid the conflict and to flee from the disagreeable situation to unreality, phanstasy or dreaming. How quickly we are prepared to do this depends upon the sensitiveness of our nervous and mental makeup and the harshness of the handicapping realities of life in our particular case. The functionally nervous patient is trying to escape from some disagreeable difficulties (personal desires, other persons or things) and to seek refuge from an objective world with which he is dissatisfied because it is blocking self-expression. The functional neurosis is, therefore, a symbol of the mental conflict which has the patient within its grip.

There is a demand on the part of the patient for immediate solution of his personal problem or difficulty. He demands instantaneous gratification of his desire, without effort. In other words, he has become frantic and panicky in his quest for immediate satisfaction of his balked wishes.

In his blind flight one may detect the tendency to find a material, tangible, physical or bodily cause for his subjective complaints. So pronounced is this that it may lead to unnecessary surgical operations. For, it must not be forgotten that his hopes and fears, his aspirations and disappointments, his cravings and regrets are often but vaguely recognized by the patient himself. But in the average case, a painstaking study of the sequential history of the case will as a rule show that there were evidences of uncertainty and apprehension, feelings of insecurity and of inadequacy for some time preceding the final breakdown. This prodromal uneasiness and uncertainty the patient may try earnestly to overcome but when the ultimate nervous breakdown takes place, it is frequently either forgotten or ignored by the patient.

What are some of the things for which functional nervous symptoms stand as symbols? Here we may include any and every kind of human obstacle, handicap, disappointment, misfortune or difficulty, such as business and financial worries and reverses, illness of one's self or one's family, inability to meet the expenses of living, the problems of increased responsibility such as occur with marriage, failure in the satisfaction of our aspirations and our desires for expected reward as a result of our effort, changes in our method of life or in occupation, misfortune of one sort or another afflicting ourselves or the members of our immediate family, and personal disappointments, accidents and bereavements of whatever nature.

The physician who would study and treat these cases must perforce become interested at once in human desires, mental conflicts and personality. He finds himself engrossed in a truly humanistic psychology. And he will find that human cravings and fears, wishes and regrets and the manifold ways of dealing with life situations are as interesting, as important and as real as germs seen under the microscope, an eruption on the skin or a membrane on the tonsils.

THE BASIS OF TREATMENT IN FUNCTIONAL NERVOUS STATES

The treatment in functional nervous disorders consists of physical and medicinal measures on the one hand, and mental measures on the other hand.

In many of these cases it is necessary for a certain period, especially in the beginning, when the symptoms indicate it, to prescribe for the individual symptoms palliatively—hypnotics and baths for insomnia, sedatives for nervous and mental unrest by day, massage, rest periods and other measures for the nervous and mental irritability, increased rest and diet for loss of weight and fatigue, tonics for poor appetite. This symptomatic treatment is absolutely necessary in most cases with acute symptoms—but only as temporary measures and partial aids. One should guard against the patient resorting to self-medication. Nor should one stop there, for then he has but scratched the surface, failing to get at grips with the real cause or to do any lasting good. For it must never be forgotten that nervous conditions not directly of organic origin are curable by other than strictly physical or medicinal measures.

Whereas organic diseases are treated by physical measures primarily, functional nervous disorders should be treated by mental measures primarily and physical measures secondarily.

Since functional nervous manifestations are

at bottom the end-result of disturbed ideas or thinking, it is only by mental readjustment that a lasting or permanent cure can be brought about. The patient must know that his symptoms are fundamentally due to disturbing ideas of which he is clearly or vaguely aware, or which he ignores or has forgotten. He must definitely appreciate and recognize the ultimate mental origin of his symptoms and overcome his harmful thinking by training himself in healthful thinking. In other words, for recovery from functional nervous illness, mental reeducation is a foundation stone. Since his physical and mental symptoms may be but the result of his thinking and feeling, we, as physicians, do not do our duty by the nervous patient unless we have made him see the unquestioned relation between his symptoms and his general attitude to life.

Once a positive diagnosis of the functional nervous disorder has been made, the proper ultimate treatment of the patient, if real results are sought, is psychotherapeutic. And by psychotherapy I mean nothing more than instructing an individual so that he has greater self-knowledge, this instruction being given by one in whom he believes. Since the underlying causes of fuctional nervous ailments is so often concealed from the patient, self-knowledge is urgently demanded. In other words, the patient must be made to see clearly that mental conflicts are at the basis of his condition and to face courageously and with insight the personal problems which have been responsible for his trouble. "The thing that interests the patient is how he can be cured; and if we have traced the causes of the trouble back to personal relations which in their turn cause anger, fear, or rage, the thing most obvious to do is so to live, think and act, that personal conflicts are avoided, won, or born consciously and not repressed."[1]

Although legitimate suggestion is of great value, charlatanry should not be employed. After all, however, analysis and reeducation is the true ideal, for the patient must not only be shown the real, psychic origin of his condition, but he must also have his viewpoints or mental attitudes changed to keep him well nervously.

The patient must learn that he must stop trying to flee from reality. He must be shown the meaning of his mental conflict. He must learn how to face life, its problems and obstacles, courageously, meeting them squarely and solving them with decision. He must train himself to control and guide his emotions and his thinking. He must learn how to react more calmly and moderately to the stresses, strains, and trials of daily life. He must become less self-centered and more self-forgetful. He must look forward and outward, rather than backward and inward. He must develop a wiser and a more wholesome philosophy of life from which such self-knowledge and self-direction will result that there will be gradually built up a more stable and self-sufficient personality. The nervous patient must needs cultivate as a most essential part of his makeup, the habit of cheerfulness and of smiling, the sense of humor, the spirit of healthy optimism and meliorism. He must cultivate psychic hardening, perseverance, morale, and the carrying-on spirit. He must encourage within himself an undying faith in and hope for progress and improvement, a never-say-die spirit, the sporting attitude (of being a good loser), fearlessness, a state of mental preparedness for mistakes and mishaps, with a dogged determination to return to the battle of life over and over again, be the outcome what it may.

Very often in these cases we have a veritable pitched battle of personalities, a psychological game or contest, a conflict of minds or wits, between the patient on the one hand and the physician on the other. And, unfortunately, in all too many instances, the physician is defeated, and the patient is the victor and remains a mental and nervous invalid.

Although inheritance or organic disease or deformity may play a role in the initiation of functional nervous conditions, we must not neglect the all-important factors of ignorance and fear, of the mental attitude of the patient.

The general practitioner must discover these patients, interest himself in them and redirect them into the right road. Sadler[2] has well expressed himself in the following words: "It is my belief that in the future the physician's consulting office is destined to become a psychotherapeutic laboratory in which the human nervous system will be scientifically studied, diagnosed and prescribed for. The day in which

the doctor's office is to be merely an adjunct to the chemist's shop is about over. The physician of the future is destined to become a mental minister, dispensing courage, hope, confidence and stoicism to his patients, all of whom are more or less disordered in nerves and discouraged in mind. These nervous people must be taught how to think logically and reason calmly, and in view of the present organization of society and its agencies of physical, mental, and spiritual relief, I cannot see how this work can be effectively carried out, except by the medical profession."

The general practitioner sees these cases as a rule long before they come into the hands of the specialist in nervous and mental diseases. The general practitioner has these cases under his care in the earliest, most easily and most quickly curable stages. It is his duty to become interested in them and to study them as carefully as if he were dealing with a condition due primarily to a germ.

There is nothing mysterious about these functional nervous disorders. No wonderful or magical powers are necessary to understand and treat them. But attention, interest, time, thought, patience and study are absolutely essential. And if the general practitioner does not tackle the job, and if he lets these patients drift and float, willy nilly, he certainly has no right to complain when he discovers that they have found their way to the medical cults and isms whose ranks are swelled by the army of nervous patients who flock to their banners. After all, let us not forget that people turn to Christian Science and its substitutes as a rule only after a long period of woe.

The neurologist and psychiatrist is aware of the problem, but is the average general practitioner?

The sooner the general practitioner fully realizes the situation, and decides to enlist and help in its solution, the better will it be for the patients and the physicians, and the worse for medical cults and their offspring.

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31 North State Street.

HAY FEVER IN THE CHICAGO TERRITORY*

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The implication of pollens in the causation of a large percentage of the spring, summer and fall coryzas has made it necessary for those interested in this problem to familiarize themselves with the distribution and habits of the local offending plants. As reports[1-8] made from various sections of the United States show that the significant flora varies widely, and as no one to my knowledge has reported the Chicago territory, it was thought advisable to record observations made here during the past five years.

The geographical position, the geological formations and the topography in and about Chicago make the plant life and habits differ in some respects from those sections already reported. The following description is taken from the Bulletin of the Geographic Society of Chicago.[9]

The City of Chicago is situated on a low, strikingly flat plain, bordering the west side of the head of Lake Michigan. Its inner border is formed by the shore of Lake Michigan, while its outer margin, marked by higher land, extends from Winnetka on the north, through Galewood and LaGrange on the west to Glenwood and Dyer (Indiana) on the southwest and south. Its greatest width is almost fifteen miles in a direction southwest from the city.

From the shore of the lake, the level of which is about 581 feet above mean tide level in New York Harbor, the Chicago plain rises very gradually to a nearly uniform height about 60 feet above the lake. At this level the flatness of the plain is interrupted and to the west and south the surface rises promptly and its topography is rolling. The rise is continued until the rolling surface reaches an extreme altitude of 200 feet above the lake. From this considerable elevation there is a decline toward the west, southwest and south. In other words, the Chicago plain is shut in by a broad ridge-like belt of gently rolling topography. Observations beyond the vicinity of Chicago show that this ridge belt comes down from the north and swings about the head of the lake basin. It is in reality a glacial moraine.

The substructure of the Chicago plain and moraine is solid rock whose surface varies from 124 feet below to 110 feet above lake level. The drift which covers the rock varies from 0-130

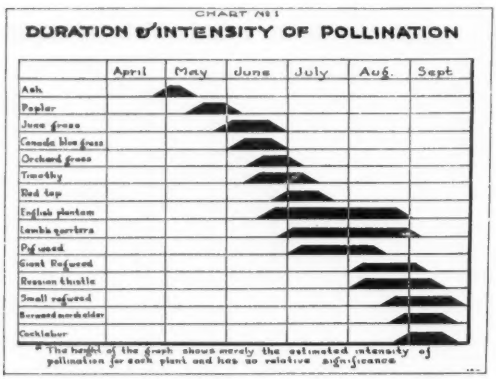
*Mounted specimens of the common offending plants were exhibited at a meeting of the Institute of Medicine in Chicago, April, 1925.

†This work was aided by a grant from the Fenger Memorial Fund.

‡From the John McCormick Institute for Infectious Diseases, Chicago.

feet in the plain and averages 150 feet in the morainic belt.

Conditions here then are such that three types of topographic and soil areas are represented and their associated vegetations are as follows: (a) moranic deposits chiefly bowlder clay, with mesophytic upland forests, (b) the Chicago plain which represents the area covered by the glacial Lake Chicago with its hydrophytic lakes and swamps and its mesophytic prairies, and (c) beach and dune sands with its xerophytic forests. The second of these with its swamps and prairies is the most important as it offers a wide range of vegetative possibilities.



In addition to the topographic and soil factors which are constant, there are the following very important variable influences which, from the "hay fever" point of view, have a marked effect on the vegetation. These are precipitation, temperature, sunshine, and direction and velocity of wind. These influences govern to a great extent not only the development of pollen but, of equal importance, its distribution. Favorable preciptation, temperature, sunshine and winds in proper season result in a high atmospheric pollen content while cloudy rainy days, low temperatures, and lack of winds have the opposite effect. Thus one season or a part of a season may be particularly favorable or unfavorable for the production and distribution of pollens and as a result clinical symptoms are severe or light. Specific examples are taken from the data in tables I-V. In August and September, 1924, the precipitation was almost twice the average, the monthly mean temperature, the percentage of possible sunshine, and the wind velocity all less than the average. On the other hand in the same months of 1925 the precipitation, sunshine and wind velocity were about the average, and the monthly mean temperature above the average. These data indicate that the 1925 season was more favorable for the production and distribution of pollen than the 1924 season and this is coroborated by clinical and field observations. Although moderately high temperatures favor plant growth excessive heat at critical stages of development may be harmful. In May and early June, 1925, the precipitation was about one-half the average, the monthly mean temperature about average, the percentage of possible sunshine above average and the absolute maximum temperature the highest for years. This combination of circumstances resulted in great damage to the buds of flowering grasses and a light crop of pollen from June grass, orchard grass and timothy was produced. Later in June and in July conditions were more favorable and pollen from red-top was abundant. Field studies showed that the atmospheric pollen content was relatively small the first part of the season and heavier fro June 20 until July 15 and clinically, symptoms were light until June 20 and much more severe after that date.

These observations show the necessity of ac-

TABLE II
Precipitation in Inches. Chicago

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1920	1.11	0.13	4.57	4.71	1.81	3.94	1.61	3.16	3.35	1.57	.92	3.33	30.21
1921	0.97	0.38	4.00	4.47	0.80	1.57	1.87	4.92	5.72	3.26	3.51	4.63	36.10
1922	1.16	0.74	5.58	3.70	3.18	0.12	4.00	1.45	4.37	3.40	2.66	1.21	31.57
1923	0.92	1.05	3.05	1.38	3.46	1.70	2.67	7.76	2.50	4.57	1.46	1.96	32.48
1924	1.32	1.68	3.70	0.84	2.30	6.60	3.68	8.12	3.14	0.84	0.86	1.90	34.96
1925	0.68	1.62	1.51	3.15	1.59	4.53	2.47	2.09	3.19				
Average	2.00	2.16	2.55	2.88	3.37	3.66	3.64	2.88	3.02	2.55	2.50	2.07	33.28

curate knowledge of each season's production and distribution of pollen before attempting to interpret the results of any form of treatment for the relief of "hay fever." As this has not been commonly done both clinicians and their patients have often allowed themselves to become over-optimistic one season because of apparent good results obtained from treatment, and over-pessimistic the next season because of poor results obtained with the same treatment. Discouragement and skepticism naturally follow and these hinder advances in knowledge.

Although all other conditions may be most favorable for plant development, the severity of "hay fever" symptoms in the Chicago district especially, depends to a great degree on the direction and velocity of the wind. From March to June the prevailing direction is from the northeast and from June to March from the southwest to west, but from June to October there is a large component from the northeast. At the same latitude in Davenport, Iowa, the prevailing wind is from the northeast only during April. Because of Chicago's location on the west shore of Lake Michigan the wind direction exerts a unique influence on atmospheric pollen content. During times when the wind is from an easterly direction the atmosphere in all sections near the lake is relatively free from pollen and as one goes inland the content gradually increases but for miles does not reach the concentration found on days when a high wind blows from a westerly direction. This explains the clinical observation that symptoms are absent or greatly diminished on days when the wind is from the lake and are increased when it blows toward the lake. Due to the predominance of easterly winds from March to June and the large component from the east from June to October Chicago offers at least one great advantage to "hay fever" sufferers who are unable to go to pollen free sections. The wind velocity also is very important as pollens which are carried only a few yards by a 10 mile wind may be carried miles by the common Chicago gales.

Although soil and environmental influences

TABLE II
Wind*†

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1920	NW 13.5	NW 11.8	S 16.7	NE 14.9	NE 11.3	N 11.1	W 9.6	NE 8.5	NW 11.6	SW 11.0	NW 11.7	W 14.2
	38 NE 23	34 NE 3	49 S 15	48 SW 2	21 S 17	38 W 1	44 W 23	31 SW 20	35 S 15	40 S 15	31 W 4	48 W 14
1921	W 13.6	W 12.7	S 14.1	S 15.3	N 12.0	NE 9.3	SW 9.6	NE 10.1	SW 10.7	SW 14.0	NW 12.6	NW 13.4
	37 W 2	50 W 6	39 S 26	56 NE 16	38 W 13	30 N 3	40 W 7	33 S 19	39 W 21	60 S 17	44 NW 8	50 SW 31
1922	SW 30.0	W 14.2	N 14.7	N 12.7	S 9.8	N 10.3	NE 9.7	S 8.7	SW 9.4	NW 11.5	W 13.5	W 12.7
	42 SW 4	47 SW 23	49 SE 6	54 W 19	30 S 6	35 W 10	38 S 9	48 NW 24	26 N 24	33 S 13	44 SW 30	36 S 11
1923	W 12.3	W 12.1	NW 14.6	NE 13.1	NE 12.2	SW 10.0	E 8.3	NE 9.4	S 9.5	NW 9.8	NW 11.6	W 12.8
	42 S 17	46 W 14	60 NE 11	48 S 21	36 S 19	30 W 7	24 NW 6	45 NW 11	30 S 1	37 S 17	32 S 20	38 W 27
1924	W 12.6	NW 12.5	N 11.7	W 11.0	W 10.5	N 9.6	NE 9.2	S 9.9	NE 11.0	S 11.5	W 14.1	W 12.8
	35 SW 22	45 NE 4	40 W 7	37 NW 7	38 S 23	38 NE 8	32 NW 24	54 S 8	35 W 21	42 S 30	39 SW 5	34 W 8
1925	W 10.6	S 12.0	N 13.5	N 11.7	N 10.3	W 11.3	N 8.9	E 7.7	E 10.2			
	33 S 6	40 S 20	42 S 20	37 NE 19	38 NE 24	44 S 12	33 NW 6	24 N 26	35 W 11			

*1st line. Prevailing direction and average hour velocity.
†2nd line. Maximum velocity, direction and date.

TABLE III
Sunshine. Percentage of Hours Possible. Chicago

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1920	48	44	63	50	75	75	78	72	71	69	45	44
1921	57	38	49	62	70	69	88	72	70	62	35	33
1922	73	56	49	59	65	82	75	75	70	71	30	44
1923	44	47	55	61	69	73	75	64	60	61	48	47
1924	59	41	31	57	62	68	76	62	63	84	58	49
1925	48	51	71	64	70	73	68	75	57			

TABLE IV
Temperature. Absolute Maximum and Date

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1920	38 29	49 2	73 31	73 22	82 31	95 28	98 23	.90 5	90 21	82 10	64 20	62 3
1921	56 21	66 15	78 19	81 24	93 24	95 17	97 17	91 19	88 1	79 17	65 17	57 1
1922	52 4	68 22	66 25	74 9	83 30	95 16	93 9	92 17	98 2	87 5	66 5	58 1
1923	49 18	44 26	65 2	79 20	79 14	96 25	95 10	89 14	80 27	86 12	62 10	53 18
1924	48 9	44 27	63 27	76 24	84 5	94 19	91 28	92 5	90 21	81 19	75 5	56 8
1925	44 31	62 8	76 26	86 23	94 22	96 5	98 3	96 30	95 5			

largely determine the flora, in "hay fever" work it is necessary to have accurate knowledge of the distribution and habits of the suspected plants. In order to get this information frequent observations were made in many parts of this territory, especial attention being paid to the presence, distribution and flowering season of the anemophilous or wind-pollinated plants and of the popularly suspected insect-pollinated plants. However, it must be remembered that the pollens from some anemophilous plants are of no importance, often being found abundantly in the air and on exposure giving neither characteristic symptoms of "hay fever" nor positive skin-reactions. On the other hand pollens from many insect-pollinated plants cause typical symptoms and give positive skin-reactions but are not of great importance as the pollen is gotten only by direct contact or within a radius of a few feet from the plant on very windy days. In this work the actual presence of pollen in the air was determined by the examination of atmospheric pollen plates which were exposed daily in favorable locations about the city. The differentiation of pollens and the distinction of pollens from other formed material such as smut spores, which often resemble them in size and shape, were made microscopically. The names of the most important plants found, grouped in families and with their common

TABLE V
Temperature Monthly Mean. Chicago

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1920	18.8	25.8	40.2	43.0	55.4	69.1	71.5	71.0	69.0	61.9	40.2	32.4
1921	32.4	33.4	45.8	54.2	61.7	73.8	81.2	72.8	70.0	54.8	40.8	32.5
1922	24.8	29.4	39.4	48.7	63.8	70.8	73.3	73.2	69.5	57.6	44.6	29.9
1923	30.8	22.3	33.0	46.6	54.4	70.8	74.4	70.8	65.1	52.5	43.8	39.7
1924	19.8	28.8	43.6	49.0	54.4	64.5	70.2	71.0	60.3	59.8	41.5	23.4
1925	25.9	32.2	39.7	52.6	54.7	71.8	73.0	76.6	72.2			

TABLE VI
Most Important Hay-fever Plants

Family	Scientific Name	Popular Name	Size of Pollen	Quantity of Pollen	Habitat
Tree	Fraximus americana	Ash	26 microns	+	Parks, roadsides.
	Polulus grandidentata	Poplar	30 microns	+	Parks, roadsides.
	Polulus tremuloides	Poplar	30 microns	+	Parks, roadsides.
Grass	Poa pratensis	June grass or Ky. blue grass	30 microns	+++	Lawns, pastures, roadsides, golf courses vacant lots.
	Poa compressa	Canada blue grass	30 microns	++	Lawns, roadsides, rich wastes.
	Phelum pratense	Timothy	40 microns	+++	Meadows, pastures, roadsides, and vacant lots.
	Agrostis alba	Redtop	30 microns	+++	Fields, golf courses, roadsides, and vacant lots.
	Dactylis glomerata	Orchard grass	35 microns	+++	Shaded moist roadsides, vacant lots.
Amaranth	Amaranthus retroflexus	Pigweed redroot	25 microns	++	Fertile waste fields and lots.
Chemopod	Chemopodium album	Lamb's quarters	20 microns	+++	Vacant lots and wastes.
	Salsola pestifer	Russian thistle	18 microns	+	Sandy wastes and vacant lots.
Plantain	Plantago lanceolata	Buckhorn or English plantain	25 microns	+	Lawns, roadsides.
Ambrosia	Ambrosia elatior	Small ragweed	17 microns	++++	Roadsides, fields and vacant lots.
	Ambrosia trifida	Giant ragweed	18 microns	++++	Along fence rows, ditches and in vacant lots.
	Iva xanthifolia	Burweed marsh elder	14-18 microns	++++	Roadsides, wastes and vacant lots.
	Xanthium spp.	Cocklebur	28 microns	++	Roadsides, fields and vacant lots.

habitat, are given in Table VI. The less important in each family are given in Table VII. It was noted that climatic influences caused yearly variations of from 5-10 days in development and that sections inland were from 3-7 days ahead of sections bordering the lake. Chart I shows graphically the duration and intensity of pollen-production from the most important plants. The height of the graph shows merely the estimated intensity for each plant and has no relative significance.

The distribution of different plants varied greatly. In some sections poplars, maples or oaks were abundant. June grass, timothy, red-top and small ragweed were widely scattered, while in certain sections orchard-grass, Canada blue grass, pig-weed, giant ragweed, lamb's quarters, burweed marsh elder, or cockle bur predominated. The burweed marsh elder (iva xanthifolia) is invading the city from all sides and unless prevented will soon rival the ragweeds in importance. The Russian thistle and English plantain flourish in certain sections.

Note.—I wish to thank Dr. George Fuller of the University of Chicago and Dr. H. S. Pepoon of the Lake View High School for assistance in this work.

TABLE VII

Other Hay-fever Plants

	Scientific Name	Popular Name
Trees	Alums glutinosa	Alder
	Betula alba	Birch
	Acer negundo	Box-elder
	Populus deltoides	Cottonwood
	Ulmus americana	Elm
	Celtis occidentalis	Hackberry
	Corylus americana	Hazelnut
	Corya spp.	Hickory
	Ostrya virginiana	Ironwood
	Acer rubrum	Maple Hard
	Acer saccharum	Maple Soft
	Juniperus communis	Mountain cedar
	Quercus spp.	Oak
	Pinus spp.	Pine
	Plantanus occidentalis	Sycamore
	Juglous nigra	Walnut black
	Salix spp.	Willow
Grasses	Poa annua	Annual blue grass
	Anthoxanthum odoratum	Sweet vernal grass
	Agropyron repens	Quack grass
	Panicum spp.	Panic grass
	Echinochloa crus-galli	Barnyard grass
	Digitaria sanguinalis	Crab-grass
	Sudropogon spp.	Beard grass or blue stem
	Lolium perenne	Perennial rye grass
	Bromus tectorum	Brome grass
	Chaetochloa spp.	Fox tail
	Festuca elatior	Fescue grass
	Hordeum jubatum	Squirrel-tail grass
	Elmyus canadensis	Wild rye
	Scirpus cyperinus	Sedge or wool grass
	Scirpus lineatus	Sedge or wool grass
	Zea mays	Corn
	Secale cereale	Rye
	Triticum sativum	Wheat
	Avena sativa	Oats
Amaranths	Amaranthus albus palmeri	Careless weed
	Amaranthus graecizans	Tumbleweed
	Amaranthus spinosus	Spiny amaranth
	Acnida tamariscina	Water hemp
Chenopods	Cycloloma artplicafolium	Tumbling pig-weed
	Chenopodium ambrosoides	Wormseed (Mexican tea)
	Chenopodium hybridum	Wormseed
	Kochia scoparia	Burning bush
	Artiplex hostaba	Orache
Plantain	Plantago rugelii	Common plantain
Ambrosias	Ambrosia psilostachya	Western ragweed
	Iva ciliata	Marsh elder
	Franseria acanthacarpa	False ragweed
Artemesias	Artemesia biennis	Wormwood biennial
	Artemesia caudata	Wormwood tall
	Artemesia canadensis	Wormwood
	Artemesia vulgaris	Mugwort
	Artemesia absinthium	Wormwood
	Artemesia annua	Wormwood
	Artemesia draciniculoides	Wormwood Indian
	Artemesia gnaphaloides	Prairie sage
Rumexes	Rumex acetosella	Sheep sorrel
	Rumex crispus	Yellow dock
	Rumex obtusifolia	Bitter dock
	Fagopyrum esculentum	Buckwheat
Leguminoses	Medicago sativa	Alfalfa
	Trifolium pratense	Clover, red
	Trifolium repens	Clover, white
	Melilotus alba	Sweet clover
Other plants unclassified	Leontedon taraxacum	Dandelion
	Salidago spp.	Goldenrod
	Helianthus spp.	Sunflower
	Rudbeckia laciniata	Goldenglow
	Rudbeckia hirta	Yellow daisy
	Vernonia spp.	Ironweed
	Eupatorum spp.	Joe pye weed
	Urtica gracilis	Nettle
	Cannabis sativa	Hemp
	Humulus japonica	Japanese hop
	Typha latifolio	Cat-tail
	Typha angustifolia	Cat-tail
	Helenium autumnale	Sneezeweed
	Thalictrum spp.	Meadow rue

*This list includes only those plants that are found in sufficient numbers to be of importance. Thus only 24 of the 160 grasses found here are recorded. For a complete list of all plants see H. S. Pepoon's book, The Flora of the Chicago Area. (10)

CONCLUSIONS

1. The geographical position, topography and environmental influences of the Chicago territory determine to a large degree the species, production and distribution of its pollen.

2. The daily and seasonal variations in severity of symptoms in untreated "hay fever" subjects are explained by variations in such climatic influences as precipitation, temperature, sunshine, and direction and velocity of winds.

3. Clinical and field observations show that the most important offending plants for this territory are June grass, orchard grass, timothy, red-top, large ragweed, small ragweed and burweed marsh elder.

4. Other less important plants which cannot be neglected are Canada bluegrass, cockle bur, lamb's quarters, pigweed, Russian thistle and English plantain.

5. The soft maple, ash, poplar, oak and willow may cause symptoms for a few days in a small percentage of patients.

6. The seasonal variation in production and distribution of pollen must be considered when

interpreting the clinical results of prophylactic treatment.

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ORAL MYCOSIS WITH REPORT OF CASE.*

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During the last few decades we have all seen the remarkable development of our knowledge of bacteria to its present state. There has not been a comparable advance in our knowledge of the etiological significance of yeasts and molds or of the processes by which they produce pathologic conditions. This in spite of the fact that the fungi of favus and thrush were the first two pathogenic organism to be discovered.

The variability in morphology under different conditions; the lack of systemic reaction; the lack of toxin formation and the lack of recognition of formation of antibodies with few exceptions and many other factors have all contributed to our imperfect study and knowledge of fungi both from an etiologic and a therapeutic standpoint.

Many of our fungus diseases are thoroughly known and familiar to all of us, blastomycosis, actimonycosis, and ringworm being outstanding examples. The question that demands serious and intelligent study today is the etiologic significance and biology of fungi that are frequently found in studies of various pathological conditions and a proper classification of these fungi from a disease producing standpoint.

The only present satisfactory classification is the botanical one based upon ascus spore formation and this distinguishing characteristic may be so modified by disease conditions and methods of study that it is of no clinical value. It is only pertinent in this brief case report to say that so far as we know all fungi pathogenic to man belong to one of two main divisions, the Eumycetes which are subdivided into four classes and the class Hyphomysetes which belongs the genus Leptothrix.

The leptothrix are simple non spore forming unbranched threads frequently found in stomatitis and other oral disorders and their true etiologic importance whether individual or symbiotic, or of no importance is still a disputed question.

The case here reported presents three distinct pathological conditions each with highly distinguishing features in all of which the leptothrix was proven to be apparently the only etiologic organism.

Case Report. Mrs. H. Age 48, American, a business executive and living a carefully supervised life because of abnormally increased blood pressure developed an acute tonsillar infection on Dec. 17, 1923. The case demanded full attention because of the rather severe systemic reaction and the amount of thick grey colored membrane on both tonsils. There was marked inflammatory reaction in the entire pharynx, but membrane was present only on the tonsils. Cultures were negative for diphtheria. Smears were negative for Vincent's angina, positive for ordinary throat organisms and showed in profusion a thread-like non-branching fungus. The preponderance of this fungus was recalled five days later when preparing to drain a peritonsillar abscess which had developed on the right side. The pus from this abscess was unusual in character, being extremely thick, brownish yellow in color and extremely malodorous. Cultures which were taken with care to avoid oral contamination were sterile of bacterial growth, but, after many days, incubation at room temperature showed the same fungus that had been recognized in the original smears. This suppurative stage was accompanied by most grave systemic symptoms. The local condition was entirely different from the usual quinsy. Induration was extreme, extending over the hard palate nearly to the incisor teeth and the abscess cavity did not finally heal until about Feb. 1, 1924.

During the second week of February the third type of pathology developed, this being a typical mould growth covering the posterior half of the tongue and at times extending well onto the anterior portion. The growth was brownish yellow in color, at times very dense and fully one-fourth inch in elevation above the tongue surface. Growth teased off with tissue forceps proved to be the same leptothrix already described. After a variety of treatments, extending over several weeks, the infection was finally killed by daily application of 25 per cent. silver nitrate solution. Iodine was of no value.

*Read before section on Medicine, Quincy meeting of the Illinois State Medical Society, May 19, 1925.

In October, 1924, the tonsils were removed, under local anesthesia, by Dr. D. M. Keith. The right tonsil was extremely sclerotic and adherent. Cultures from the tonsillar tissues were negative for fungi, but sections stained by Dr. Henrietta Calhoun of Rockford Hospital, by whom all laboratory work was done, showed the thread-like, non-branching, non-spore forming fungus still present in the deep tonsillar tissue.

To recapitulate, we have three distinct pathological conditions, acute membranous tonsillitis, peritonsillar abscess and fungus growth on the tongue all occurring in sequence within a period of seven weeks. A leptothrix was present in all conditions and in two was apparently the only microorganism present. This same leptothrix was present in tissue sections ten months after the original infection.

DISCUSSION

Dr. John E. Tuite, Rockford: I feel that Dr. Day has brought to our attention a certain type of invasions that we are too prone to regard as non-pathogenic. Our attitude in this matter has probably been influenced by the fact that most of them are non-pathogenic under ordinary conditions. It is rather under the extraordinary conditions that these invasions produce pathology.

Dr. Smith of Harvard, in his study of Manila psilosis as the cause of tropical sprue, found that his animals were not all susceptible to invasions by this organism until their resistance was reduced by improper or insufficient or unbalanced diet, etc. On bringing about this condition the animals were susceptible.

It was Ashford who pointed out that tropical sprew is not necessarily a tropic disease; that under these same conditions we might have this disease elsewhere.

Woods, I believe it was, called our attention to the fact that the anemia, and there is always a severe anemia in these diseases, resembled pernicious anemia and cannot be differentiated.

It seems to me that this whole subject opens up an entirely new field and one which should receive more attention.

There came under my observation, indirectly, a case within the last year of a man who was seized with a sudden severe pain in one ear. He had to go to a hospital. In 14 hours the ear drum ruptured and pure streptothrix was found. Then the other ear started to give trouble and in 14 hours more that ruptured with the same finding.

Within, I believe, 24 hours, or maybe less, he developed some trouble with the mastoid, with the bubbles of air. Then he was given large doses of iodine and immediately improved. He discontinued the iodine and his trouble returned only to disappear under iodine up to saturation.

It is gratifying to know that we do get results, notwithstanding Dr. Day's unsatisfactory experience in this case with the use of iodine. Dr. Day, I believe, used his iodine locally and not systemically. I believe systemically you do get results. This whole field, it seems to me, is full of possibilities and we should be deeply indebted to Dr. Day.

IS MALARIA AN ETIOLOGIC FACTOR IN IRITIS?*

R. C. MATHENY, M.D.,
GALESBURG, ILL.

About five years ago a young woman about twenty years of age consulted me concerning an affection of her left eye. The general findings were such as to lead me to make a diagnosis of iritis. Most of the important symptoms of iritis were present, with the exception of adhesions. I was unable to determine the original source of infection; there had been no recent disease of the nasal accessory sinuses, nor was I able to demonstrate their presence; neither had there been any tonsillitis nor other local inflammatory trouble that might have been the original source of infection. I treated the case by instilling atropin and prescribing sodium salicylate. In a few days the symptoms had entirely disappeared and I thought the case had made a complete recovery. But within a very short while she consulted me again with all of the original symptoms present and the affection went through the same course as on the first occasion. Under similar treatment all symptoms disappeared within four or five days. She came back, however, the third time with all of the symptoms as before, but this time the periodicity of the disease suggested malaria and beside the instillation of atropin nothing was done excepting to prescribe quinine, which the patient took for four days, when all of the symptoms disappeared and never returned.

About one month afterwards another case, a man about thirty-five years of age, consulted me with what I diagnosed as iritis. Ordinary treatment was instituted and in about a week symptoms had disappeared. He returned, however, after a few days with all symptoms of iritis again present. Remembering the other case which yielded to quinine, I thought perhaps this might also be of a similar nature and I had a blood examination made to determine the presence of malarial plasmodia. Whether or not the laboratory technique was faulty, we did not find any of the plasmodia present. No other internal medicine except quinine was given. He never had a recurrence.

On April 9, 1924, Mrs. J. J. T., aged 40, con-

*Read before the Quincy meeting of the Illinois State Medical Society, May 20, 1925, Section on Eye, Ear, Nose and Throat.

sulted me about an infection of her left eye. The conjunctiva was deeply injected and both eyelids slightly edematous. She complained of considerable pain. On the cornea of the left eye there had developed a small phlyctenular ulcer. This case was kept under treatment from April 9, 1924, until May 19, 1924. The symptoms never at any time completely disappeared, but there were marked exacerbations about once every eight days. I had suspected that this case was limited strictly to the conjunctiva and had not employed atropin, but on this date atropin was instilled and examination of the cornea revealed small, very minute deposits upon its posterior surface. Not having been able to demonstrate any nasal accessory disease nor locate any focus which I believed to be the cause of her trouble, quinine was administered. Improvement immediately began and the case progressed to complete recovery with never any recurrence. I had one other case which presented somewhat similar symptoms and with the same result.

The periodicity of the symptoms in all of these cases and the fact that they made complete recovery from the administration of quinine naturally leads one to suspect that malaria was an etiologic factor in all of these cases. In only one of these cases was there any real effort made to determine malarial plasmodia, and the result of this was negative. This, of course, does not mean much one way or another.

I have not been able to find much definite data regarding malaria as the cause of iritis. Many of the text-books refer to it in a general way as a possible factor, but such references are of little importance. I have tried to find records of cases that might be of positive value.

In the proceedings of the French Ophthalmological Society of 1899 there is a report of a case of a woman, 48 years of age, who had been received into the medical ward of a hospital for bronchitis of 2½ years' standing. This woman had a daily rise of temperature, but no evidence of tuberculosis could be found. The left pupil was permanently contracted. The woman gave the following history:

At the age of 19 she lived in a neighborhood that was characterized by an outbreak of malaria and she suffered from an intermittent fever for several months, which finally yielded to quinine, and during this time she suffered from an inflammatory affection of the right eye. Five or six years afterward she went through the same experience when the left eye was affected. The right eye was a seat of permanent contraction of the pupil due to posterior synechiæ. The left pupil was free, but inspection of the lens showed unmistakable evidence of a former synechia.

In the Westminster Hospital Reports of 1901, volume 11, page 83, Dr. Arthur T. W. White offers some notes on malarial cases which are of considerable interest. He dwells upon the fallacy of ascribing various lesions in malarial subjects to the activities of the plasmodium when other plausible causes are ignored. Thus, if a malarial subject is taking arsenic, we cannot be sure that a peripheral neuritis which may supervene is not due to arsenic instead of the disease. The author gives a case of such neuritis, carelessly attributed to malaria, although the patient, who did not respond to quinine, had been using arsenic instead. However, he reports three cases of supposed malarial iritis, although in two of them there had been no microscopic examination of blood. But in the third case a positive blood examination was made and the other two duplicated the third so completely that a blood test was regarded as not necessary for diagnosis. He knows of but few cases in literature and in some of these the diagnosis was not properly made and rheumatism and syphilis were not excluded. This is most surprising, because in the other affections of the eye—keratitis, optic neuritis—the malarial causation had been completely established.

The first patient was a Soudanese, known to have suffered from blackwater fever, seen in July, 1899. He was suffering from severe photophobia, with dilated, fixed and discolored pupil. There was no history of syphilis. The attack had come on suddenly in the evening after target practice in a hot sun and severe glare. Only two days before the patient had been discharged from the hospital, where he had been interned for malaria of quotidian type with enlarged spleen. The omission of the microscopic examination was not due to neglect but external causes beyond control. He was first given atropin and hot fomentation, but, no relief ensuing, he was given sodium salicylate. Pain was very severe. After eight days of resistance to treatment the possibility of malarial iritis was

suggested and quinine administered. The relief was marked; within a week the severe pain and photophobia had cleared up, leaving behind a few anterior synechiæ.

The second case also occurred in a Soudanese soldier, first seen in July, 1898, when he complained of severe pain in both eyes. This case was treated with atropin and hot fomentation and the symptoms continued for over a week. The patient was given quinine in large doses and was practically well in three days.

The third case occurred in an Englishman, seen on the bank of the Victoria Nyanza lake in 1899. Both eyes very painful with iris adhesions. Atropin and hot compresses gave some relief. Apparently little or no quinine was available. After three days of slight improvement he was seized with a severe malarial fever. Quinine being administered gave improvement both in general condition and in the eyes. In this case the malarial plasmodia were found in abundance.

In *American Medicine,* 1902, volume 3, page 228, Dr. S. D. Jacobson gives the following report:

A Russian woman, aged 22, came to the United States in 1889. She was never out of New York since arrival except as stated below. In August, 1901, she went to Greenport, L. I., where the mosquitoes were very abundant and troublesome. She was bitten freely. She returned to New York early in September. About four weeks after her first exposure she was taken ill with fever preceded by chills. The author found her suffering, incidentally, from a mild bilateral iritis. At the onset only the right eye suffered, but the left became involved after the first visit. She was evidently treated for rheumatism with phenacetin and salol and after the doses were increased she seemed to improve. This was on the fourth day. A feature of the attack was the degree of pain in the eyes, which caused total insomnia. On the following day there occurred a relapse of the fever and eye pain. An ophthalmologist was called in and found posterior synachiæ had formed. Atropin was used, but with very little benefit. For the next three days conditions were very far from satisfactory. Rheumatism and syphilis having been excluded, the author now thought of malaria, and a blood examination revealed the presence of the tertiary malarial parasite. The patient was now placed on large doses of quinine, 15 grains every 5 hours, and in three days was completely cured.

While I believe that my own experience and these cases reported justify the conclusion that malaria is at times the cause of iritis, I find certain criticisms of that opinion.

In the *British Medical Journal* of July 1, 1918, Dr. Kirk says that he had practiced ophthalmology for 20 years in Southeastern Asia, where malaria is very rife, and in the recent war he spent 8 months in the Island of Malta, where he was in close touch with soldiers invalided for malaria. In all of these experiences he never saw a case that he was willing to diagnosticate as malarial iritis. In the tropics there are countries that are saturated with malaria and others which are only slightly infested; but Dr. Kirk never could see that there was more iritis in the former than in the latter. He cannot visualize the parasite of the disease attacking the tissues of the eye directly and does not see how there could be a malarial iritis, cyclitis or choroiditis or affection of the media. On the other hand, the malarial virus is known to attack nervous substance, and so he believes in the existence of malarial optic neuroretinitis and retrobulbar neuritis; malarial keratitis from nerve influence, and malarial ophthalmoplegias and neuralgias.

He is aware that in the southern United States the claim is made that at least 10 per cent. of malarial victims have ocular lesions, but he is still unable to understand this claim and evidently believes that much of this fraction cannot really be due to malaria.

In *Ophthalmic Record,* March, 1917, San Fernandez, who practiced a lifetime in Havana, merely mentions iritis as one of the ocular lesions of malaria (based on personal observation). The paper is devoted largely to proving that some of the severe ocular lesions and blindness were really due to quinine given in large doses.

Notwithstanding these adverse criticisms, I still believe that malaria can be the cause of iritis and that the four cases under my own observation were due to that cause.

DISCUSSION

Dr. A. L. Adams, Jacksonville: I think it is opportune that Dr. Matheny should bring this subject before us. It might more frequently be brought to our minds that malaria should be considered as a cause of iritis. Personally I never have been able to make a diagnosis

of malaria as the cause of iritis with any definiteness. I have never been able to find the plasmodium, and, until that is done, it seems to me that we are not in a position to be absolutely certain of the diagnosis.

In looking up the subject, I find in Strumpell's Practice of Medicine no mention is made of iritis being a complication of malaria, neither do I find any in Osler's, although the latter refers to iritis as a complication in gonococcus infection, gout, congenital syphilis, syphilis, influenza and smallpox.

Dieulafoy, in his Practice of Medicine, refers to a form of malaria which he calls "larval malaria." Iritis of malarial origin would be of this kind. A larval disease is one which assumes the appearance of another disease with which it has little or no analogy.

In this condition it assumes the form of neuralgia, of a flux or a neurosis. The characteristic thing about it is the periodicity of the symptoms and also an absence of fever.

The most common form of the larval malaria is involvement of the fifth nerve. It may also affect the occipital, intercostal and sciatic nerve. We may also have neuralgia of the breast, stomach, intestines and heart. Larval fever is shown in some cases by congestion or hemorrhage as in coryza, tonsillitis, uticaria, partial or extensive edema, intermittent diarrhea, arthralgiac pains, epistaxis, purpura and perhaps the awakening of the rheumatic diathesis.

Among the neuroses seen in this form of larval fever are spasmodic cough, pseudo-asthmatic dyspnea, migraine and hiccough.

Fuchs, in his text-book says, "Iritis only exceptionally follows intermittent fever," and there is no further mention of the subject.

The etiology of iritis and irido-cyclitis has been a most interesting question before us for years, and more or less effort has been made to solve the problem, but not with any great degree of success.

The American Academy of Ophthalmology and Oto-Laryngology a few years ago appointed a committee to investigate the subject. The last report of this committee was made by Dr. Wm. Finhoff, Dr. John Green, Jr., and Dr. Wm. N. Benedict in 1921. The method followed by this committee was to obtai nthe assistance of a large number of ophthalmologists to whom were sent printed syllabi or questionnaires covering the personal and family history, description and symptoms, laboratory investigation, treatment, etc., which furnished to assist in carrying out a thorough and uniform search for the cause of iritis and irido-cyclitis.

The committee believe that the records would be of little value unless all known factors which might produce iritis and irido-cyclitis had been searched for.

In the last two years in which the committee has functioned 92 cases were collected and classified as follows:

Focal infection (teeth)	26
Focal infection (tonsils)	13
Autointoxication	29
Syphilis	14
Gonorrhea	3
Sympathetic ophthalmia	2

You will notice that 39 of the cases were due to focal infection and 29 to autointoxication. Eight cases were proven to be due to focal infection by reproducing the disease in animals, after inoculation of infected material obtained from the cause of the focus. About 90 per cent. of the syllabi received by the committee were incomplete.

While there is no mention made here of malaria as a cause of iritis, I feel that that is no reason for rejecting it as a cause, as the number of cases reported on is so small and over 5 per cent. was undetermined as to its cause.

I am sure we are grateful to Dr. Matheny for reminding us of malaria as a factor to be reckoned with as a cause of iritis, even though it is rarely the cause.

Dr. Chas. M. Robertson, Chicago: When I was in Texas during the war there was a doctor in San Antonio who had some dozen or more cases in which the plasmodium was found.

Dr. Matheny, in response: I haven't anything further to say except that I put this in the form of a question. I do not know whether it is due to malaria or not and I put it in the form of a question, hoping really to find out. But the satisfactory part of it was that the cases got well under quinine, which was simply suggested, and led me to read this paper.

PUBLIC HEALTH WORK AS VIEWED BY ONE IN GENERAL PRACTICE THE LAST QUARTER OF A CENTURY*

JAS. S. TEMPLETON,
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In the year of 1900 we heard little of public health, and, in fact, we did not have a Department of Health. The Board of Health was functioning as such, in a way, according to the light we had. There was an occasional quarantine of smallpox and very seldom one of scarlet fever. I well remember the first family I treated for scarlatina, and afterward a case of scarlet fever developed in the same home. I told them to keep other children out and followed the same lines of quarantine as other physicians in the locality were doing. Not a report of any kind was made to anyone; in fact, there was no one authorized to look after such things. These same lines were followed in regard to contagious diseases for several years before the Profession began to see the light. When some did see the folly of such treatment, they were maligned and abused for expressing

*Read before the Illinois State Medical Society, Quincy, May 20, 1925, Section on Public Health & Hygiene.

their opinions, or especially if they were insistent on such methods of quarantine as would safeguard their communities from epidemics of contagious disease.

It was the law of the time to report births, but few were they who obeyed it. In looking over birth records for the last twenty-five years you would think that the increase of births in the last half of that time was wonderful. We must say that the wide awake physicians of today seldom neglect to have all births recorded; though they may be a little tardy, the record is made.

About all the fellow who hung out his shingle twenty-five or thirty years ago knew about health work was what he obtained by his general knowledge of diseases; and he knew there was a State Board of Health to be reckoned with when he registered to practice.

Twenty years ago many of the Profession were talking about malaria running into typhoid fever and we *actually thought* that a dose of calomel would break up the disease if taken soon after it was contracted. *Two thousand* people in the State of Illinois were dying annually from this disease at that time, and the fact in Nineteen Twenty-three only a few more than three hundred died, is prima facie evidence that great strides have been made in the prevention of disease. In other words, the progress in Public Health Work is incontrovertible. We must all admit that much.

It is not only so *with typhoid,* but with *every other contagious disease.* The natural trend, with increased population and many more congested areas than previously existed, to contend with, would be upward rather than downward. Yet the death rate of tuberculosis, diphtheria, scarlet fever and practically every contagious disease is *decreasing* instead of *increasing. So much for the progress in Health Work.*

The same diseasess confront us today, and if we do not continue with the same zeal, there is no question but that there will be an increase in deaths during the next score of years rather than a continued decrease of the same.

We know there are carriers of typhoid, scarlet fever, diphtheria and many other contagious diseases; that during this post-war period poverty and other conditions will encourage the spread of disease; that the automobile and every modern device that increases travel and contact with other neighborhoods will assist in spreading of contagion. Smallpox has become so little thought of that even the *medical profession has almost ceased to recommend vaccination.* Notwithstanding, Illinois has a record of 22,000 from 1918 to 1924. New York, with a larger population, had but few more than 2,000 in the same time. Was the difference due to the fact that the large cities of New York have compulsory vaccination? What is there but the fact that the majority of us have been vaccinated, to prevent the return of epidemics that will startle the world? We may awake to realize that we have been sleeping on a veritable volcano, the eruption of which will destroy thousands of lives.

Venereal diseases are with us as much today as they were many years ago. They are none the less virulent—none the less contagious—a problem we must meet. Syphilis slays its thousands and gonorrhea its tens of thousands, and many of us doing little or nothing to stop them. There are also thousands suffering lives of torment, and children going about the streets in rags and poverty because their parents are incapacitated by these terrible diseases.

Deaths from *scarlet fever* in this state in 1923 —234. Deaths from diphtheria the same year —809. More than a thousand from these two causes alone. You may say a great decrease from former years, but do you realize that from the record made there is no necessity of *a hundred deaths,* no not even *fifty* per year if the health activities of this commonwealth were properly supported?

Tuberculosis is causing the death of countless thousands of lives annually and many of these are sacrificed needlessly if we will only take heed to the signs of the times and increase our health work efficiency. This is one of the greatest problems of the age. Also many minor contagious diseases that should be given proper consideration—not so dangerous, but causing suffering and loss of time. How shall *we* meet this responsibility?

When I say *we* I mean the Profession. Health workers? Yes, they should be members of the Profession; there is little room for others. I am not speaking of individual cases, but in general. Nurses, of course, are needed to work in their line of work. The results of health work will *rise* or *fall* according to the support given by the medical profession, and the personnel of health

workers. Shall we meet the responsibility in such a way that we shall continue to drive out disease and death or shall our support be such that by our negligence more lives will be lost than we can possibly save with medicine? Did you ever consider the fact that it is the *young lives* that are taken by these contagious diseases? Did you ever sit by the bedside of a child three years old, and though you had the serum, feel your helplessness? You were called too late and you could not blame the parents, because other cases similar at the beginning were pronounced tonsillitis. You have hesitated, and properly so, to tell the parents it was too late to do any good because you knew it would drive another arrow into the heart of that mother and father. The only sure prevention for these sad occurrences *is prevention.* You say "How prevent?"

If every physician would be conscientious and swab every suspicious throat and quarantine every such case until definitely diagnosed, the present death rate from diphtheria would be cut in two at once, and the disease would soon be as scarce as leprosy in the state of Illinois. The serum is a great thing, but I do not believe it possible to get to every case in time for a sure relief, and as long as we have diphtheria, we will have an occasional death.

The *Schick test* and *toxin anti-toxin* are of wonderful assistance, but can never do the work until we lend our every effort to the isolation and prevention of disease.

There is not so much chance to eradicate scarlet fever, but just the same, we can, by careful diagnosis and conscientious quarantine, prevent many epidemics. Shall we work hand in hand with those in charge of the health work of our communities, or shall we negligently let the light cases pass as scarlatina and distribute the germ to others who will develop the same in a severe form, and then after this dread disease has done its work, causing death, do our quarantining?

Time forbids our going into many details of contagious diseases, but one stands out in the lime-light, that affects many homes, that annually in the State of Illinois, takes its toll of thousands of young lives. You may say we are learning to cure tuberculosis. We are, it is true; we cured tuberculosis twenty-five years ago. We have our Palmers, our Pettits, our Pottengers, from whom, I would not for anything detract or say a word minimizing their work. However, I fully believe the greatest of their results come from the educational feature. They teach prevention; they practice prevention, and if the modern T. B. Sanatorium bore no other fruit than that from isolation and teaching of the prevention of tuberculosis, they would be worth many more dollars to a commonwealth than they cost. What I have said of diphtheria holds good of tuberculosis. As long as our young people are exposed to the germ, we will have many plucked from our homes while the bloom of youth should still be on their cheeks.

Regardless of modern treatment, regardless of our present system of prevention, more than 5,500 died annually in the State of Illinois, in 1921, 1922 and 1923. This is probably the low-water mark. It is very doubtful if our present health organization can improve on those figures without a more active co-operation of the medical profession. *What are we as a profession* doing to check this salughter by the great White Plague?

Many are standing with their hands in their pockets looking on ready to criticize parents, wiser than they perhaps, but ignorant on the subject of tuberculosis. Physicians who will cover their own negligence by saying, "Oh, well! they waited too long," when the fact is this very patient might have been contaminated by some physicians failing properly to safeguard the public—*failing by their lack of interest to prevent infection.*

Let us get down to the kernel of the subject. Without contact, no one will have tuberculosis. Some say that ninety per cent of our citizens are, at some time in their lives, affected by tuberculosis. The greater the shame, if this be true. No one is affected without taking into his system the live germ thrown off by some one else. You may say, "Why is the profession responsible?" Because they, above all others, are acquainted with the facts regarding the transfer of these germs from one patient to another. What per cent of our profession is today co-operating with the different organizations for the prevention of disease? You cannot say there are no such orders; if anything there are too many. You cannot say there are none doing efficient work. There are. Then why are we not more active in our effort to boost at least one or more of these organizations? I never did have any sympathy for the fellow who whined about the

way they were managed. If the *work is worth while,* he should be busy trying to remedy the faults rather than sit down to criticize.

It is true some of these organizations are for the money, and some of the fellows with the Department of Health of our great state are thinking more of the dollar they get out of it than they are the health of the citizens, but is not a larger per cent of our profession worshipping at the same shrine? Do not think for a minute I want any one to be less ethical professionally. We are not ethical enough now, but let us at all times practice ethics from a sound humane platform. *We must meet the responsibility. Shall we meet in a luke warm manner?* Without the support of the profession, the Department of Health, even in a great state like Illinois, will accomplish little. With proper support its work will be a boon, not only to our Commonwealth, but to every one of the forty-seven other states.

Let us then, regardless of criticism, regardless of time-worn customs and ideas, remember that at all times if we would save the greatest number of lives, we must render every service to whatever health organizations are working among our citizens in ethical, sane and progressive methods.

DISCUSSION

Dr. Wm. E. Shastid, Pittsfield, Ill.: I want to compliment Dr. Templeton on his very fine presentation of this paper. He has very thoroughly passed in review the salient features of public health and preventive medicine in the last twenty-five years. I am in no wise engaged in public health work. I simply have an academic interest in it, and have simply been an observer of the efficiency of public health work and preventive medicine of more than 25 years. I think at the present time typhoid fever, probably, offers the most outstanding and concrete result of preventive medicine as it is now. Twenty-five years ago it was no uncommon thing for a doctor to have six to 25 cases of typhoid at one time—in the fall and winter months, especially. My father, who was a practitioner before me, would not think he was practicing medicine unless he had a case or two during the entire year. I have not seen a case in four years. It was no uncommon thing for me to have six or eight in the fall of the year—for a family to get infected and go along one after the other, and it would be possibly three or four months before a house would be clear of the disease. If there are any doubts and any one does not believe what public health is really doing in preventive medicine, I offer that as an example. Now about trachoma—25 years ago I would have four, five or six cases of trachoma all the time. I have only had one or two cases at a time as an average for several years, and those mostly in modified form, and you can see what has been accomplished in that disease. Concerning diphtheria. That is one of the most striking examples in the history of medicine, to my mind. In 1894 I was taking a postgraduate course in London and Vienna. During that time Prof. Behring of the University of Marbourg and Dr. Rowe of Paris, found out there could be prepared an antitoxin which would in time prove a very efficient help in cases of diphtheria. When I came home I went all over New York trying to buy a little package of antitoxin. I tried all the houses where I thought it was possible to get it, but could not buy it for love or money. In 1895 I was in St. Louis and tried to buy some there. Could not get any there. A friend of mine, with whom I had done considerable business, I asked in the event of my getting a case of diphtheria, if he could get some antitoxin for me. He said he would if there was any in St. Louis. Well, I had an outbreak in one family—five children from three to twelve. The oldest child had it first. I treated him in the usual way and he seemed to be getting on all right. The next child, a baby about one year old, contracted the disease and died in 24 hours. There were three other children between these ages. I laid the matter before the parents and I said I thought there was an antitoxin that had recently been developed which would cure the disease. They said "Get it." It cost $20 a throw in those days. I got it right away and began to shoot up the three patients, and it was less than 36 hours when the membrane began to flake away and my patients began to get better. I knew I was taking my life in my hands, because if that antitoxin killed the patients supposedly, I was accessory before the law, and I knew where I came out. I saved those three children, and I am the first man in western Illinois who used antitoxin, so far as known, and I have lost but one patient in thirty years—a little fellow where the membrane formed at the bifurcation of the bronchial tubes. He was hoarse and I should have known better, but I could not see anything. By the time I could see the membrane, I shot in 500 units—that was all I had. But it was too late. Let me tell you another thing. About 20 years ago I had several cases of diphtheria and I used from 1/2000 units of antitoxin. I was using it as a precautionary measure, as they had all been exposed. But they did not take it. I got a letter from Dr. Griffith, who was connected with the Board of Health. He said the Board of Health did not approve of using 2/3000 units of antitoxin in contact cases as a prophylactic. That shows what progress has been made in our understanding of what is most useful. In those days it was thought 2,000 was a great big dose. You can see that from what Dr. Griffith wrote me. Now we would not have any hesitancy in using double that amount. In a severe case, twenty, thirty, forty, or even fifty thousand units as a curative measure are now and then used. I think that illustrates the progress we have made in the treatment of that disease. And now the great state of Illinois says to its peo-

ple—"We will furnish you without cost this wonderful antitoxin, and all we ask is that you use it, and use it as prophylactic in contact cases, and all you have to do is to ask for it at Springfield, and we stand behind it." Now you can see what a difference there is between now and 25 years ago in this one disease. There are a number of other diseases in which we have made a great deal of progress in prevention and treatment. I think that illustrates it more than any other disease at the present time, of what we may term those of common incidence. I think lots of us have never fully appreciated what was done in California in keeping down a nation-wide spread of bubonic plague. Last winter I spent some months in California and I was impressed with the number of ground squirrels all over the state—little chipmunks, or whatever they call them. They had an active threat of the whole nation becoming overrun with the plague, and the state board of health declared war on these little animals and fought them hard, and finally stamped out the disease, of which they were carriers, and I believe they saved this nation one of the greatest pestilences of modern times. I feel the California state board is to be congratulated on its prompt action, saving other states from that awful disease.

DISCUSSION OF DR. TEMPLETON'S PAPER

Dr. Jas. S. Templeton, Pickneyville (closing): I want to thank Dr. Shastid for so ably discussing this paper. Really some of the things he mentions were before my time. I feel there are better days ahead for health workers in the state of Illinois, and it will not be long before we are all working along together for control of the contagious diseases. Something was said this morning regarding state institutions and the insanities. I thought of how many people for whom I had signed the papers consigning them to Anna, and there has never been a single word sent back from that institution telling me what was found and how the condition could have been prevented. How can we prevent other boys and girls from going the same way? It is a deplorable fact, I think, that the man who works in the institution never gives the medical profession, the man who work at home, a single thought, and there is but little provision in the State of Illinois for research into the cause of prevention of insanity. I believe we will have to agitate among ourselves until we get the profession interested in it and then make our demands upon the state so that those in authority should give us the information. The general practitioner should have more information. My office is across the street from the courthouse in a county seat town, and when there is a patient to be committed to the asylum, they run out and get a doctor, and I sign the papers, and I don't know anything about the people I send down. I take the word of two or three people and send these patients to the asylum, and we never hear one word concerning the case from the time it leaves our hands. He is insane—we sent him there. I believe you will bear me out in saying this condition calls for remedy.

HEMOCHROMATOSIS IN A WOMAN

F. W. Moeller, M. D. and J. H. Hutton, M. D.
CHICAGO

In 1901 Abbott reported a case of hemochromatosis in a woman. As no others were reported during the next twenty years some doubt was expressed as to the validity of Abbott's case. Mills recently reported seventeen new cases of hemochromatosis, three of which occurred in women, all proved by post mortem findings.

The case here reported is the fifth female case in the literature. Its further claim to interest lies in the fact that the diagnosis was made during life and that there is present at this time neither glycosuria, hyperglycemia, nor domonstrable signs of liver cirrhosis.

Complaints: Mrs. J. R., age 53, was first seen March 27, 1924, by Dr. Fred W. Moeller. Her complaints at that time were, 1. weakness. 2. cyanosis and coldness of her fingers and toes, and coldness of her whole body. Extreme sensitiveness to cold and fondness for heat and hot weather. 3. A brownish discoloration of the skin involving almost the entire body, but especially marked on the arms and across the abdomen where her skirt band rubs. 4. Large ulcer on the left leg just above the ankle.

With the exception of the leg ulcer which dates from a pregnancy 23 years ago, her complaints date from the winter of 1922 and 1923 when she was abnormally sensitive to the cold and her fingers became cold and cyanotic but did not ulcerate.

History of the Case. In March, 1923, her face was red and swollen, resembling erysipelas. Her eyes were swollen shut in the morning but opened up toward evening. Her face was covered with pimples. These lasted a few days and disappeared. The pimples, redness, and swelling came and went a number of times between March and June of 1923. At that time there was apparently nothing in her appearance, other than this, to attract attention. In August, 1923, the skin had become somewhat leathery and the brownish discoloration had begun on the right upper arm. There was a patch on the right chest and some on the abdomen. At this time she did not feel badly and had no pain. Her appearance, however, attracted the attention of a doctor, who saw her for some other complaint, and she was put on arsenic. She took this for three months, evidently in the form of Fowler's solution, at the end of which time the discoloration had increased and she was feeling very badly. She had no headache, no abdominal pain, and no gastro-intestinal disturbances. She went to bed, however, to use her expression, because she was "all in" and "just couldn't go any longer." She says by the end of November, 1923, the discoloration had reached its present extent.

During the winter of 1924 she says she passed urine which had the appearance of orange juice and was so thick it would scarcely pour. During this time she was not confined to bed.

During the winter of 1923 and 1924 the tips of the fingers ulcerated but healed up after a time. The toes, although cyanotic, have never ulcerated. The weakness has been present at various times during the last eighteen months.

Present Habits and Condition: The appetite is good except when disturbed by heartburn. There has been no noticeable loss of weight. The bowels are regular. Her sleep is restless. It is sometimes disturbed by the pain in the leg ulcer. She is much more comfortable in hot weather. During a recent hot spell, when other members of her family were complaining of heat, she put on a hat and sat in the sun and felt comfortable. She is very comfortable when working around a hot stove. At the present time she carries a small hot water bottle in a sort of a muff to keep her hands comfortable when on the street.

Past History: Is entirely negative so far as can be determined except for a bilateral phlebitis following labor twenty-three years ago. The ulcer on the left leg dates from that time.

Menstrual History: She began at thirteen years, regular every twenty-eight days, flowed freely for five or six days without pain. The menopause occurred at forty-eight. About this time she had a considerable hemorrhage. She sometimes feels as if she might menstruate again.

Family History: She was born in Germany, near Berlin. Her father was killed in an accident at the age of 75. Her mother died at 78, cause not known by patient. She had one sister who died at the age of 64 "from nervousness" although one doctor told her she had softening of the brain. She has two brothers and one sister living and in good health.

Her husband weighs about 300 pounds and is said to be incapacitated by frequent asthmatic attacks. The patient has had eleven children; two girls and nine boys. They are all living and well except one boy who died of diphtheria when a few days old. They range in age from 8 to 33 years.

Physical Examination: She is 5 ft. 5 inches in height and weighs 146 lbs. There has been no loss in the past two years.

T. 98.6, P. 80, B. P. 125/85. There is a dark brown pigmentation on the arms, forearms, chest, abdomen, and back, and to a less extent on the legs and about the face and neck. It is not more marked in the folds of the axilla, in the groin, nor about the genitalia. It involves the palms and soles. It does not involve the mucous membranes.

The fingers are bluish white, very cold and stiff, and the tips are scarred from ulcerations. The nails are in good shape and are not brittle. The lunular markings are normal. The toes are cyanotic but have never ulcerated. The fingers have the typical appearance of Raynaud's disease.

The skin on the arms has the appearance of sclero-derma. This is more marked on the anterior aspect of the right arm. The nose is pointed and pinched in appearance as in sclero-derma.

On the anterior aspect of the left leg, near the ankle, is an ulcer about five centimeters across. She states that it developed following labor twenty-three years ago and has healed up a number of times. Judging from her history it must have been due to phlebitis. Both legs were badly swollen but only the skin on the left broke down.

The reflexes, both deep and superficial, are normal. Gait, station, and co-ordination are normal. There is no tremor of the hands or tongue. There are no palpable glands. Pupils are equal, regular, and re-act to light and to accommodation. The nose is normal except for the pointed pinched appearance. Only a few teeth are left, two or three have decayed since she came to us. The others decayed early in life. The throat is negative, tongue is normal in appearance, the thyroid is not palpable. The heart is normal in size and position and no murmurs are heard. The lungs are normal. There is no edema of the legs.

There are a few white spots on the upper abdomen, irregular in outline, perhaps .5 centimeters in diameter. The lower abdomen is covered with lineae atrophicae. Neither the liver, spleen, nor kidneys are palpable. There is no muscular rigidity and no signs of fluid.

Vaginal examination shows a bilateral laceration of the perineum and of the cervix. The uterus is of normal size, freely movable, and in normal position. No masses can be felt in the pelvis and there is no tenderness.

Rectal examination was negative.

There is a rather scant hair suit over the body but it is normal over the lower legs. The eyebrows are normal. She has lost considerable hair from her head. What remains is not especially dry nor brittle.

Laboratory Findings: The blood showed a negative Wasserman, mild secondary anemia, a normal differential count, and no signs of degeneration of the red cells.

At this time (March, 1924) the urine showed a trace of albumin and sugar and a few casts. A blood sugar determination was not made.

March 26, 1924, Dr. Hennemeyer demonstrated in a piece of excised skin hemosiderin crystals typical for hemochromatosis. This was confirmed by other pathologists.

Pathologist's Report and Discussion: "Stains used: Hemalaun-Eosin and iron-reaction. The stratum corneum shows normal structure, so does the stratum Malpighii which shows well defined intercellular bridges; the papillae are not hypertrophic. A considerable amount of pigment, varying in formation from dust-like granules to little lumps with dented outlines and of golden-brown to bronish-black color is present in different parts of the structure. It is found in the cells of the cylindric stratum basalis; pigment-granula are also present in the stroma, free or enclosed in star or spindle-shaped cells of connective tissue, the so-called "chromatophores."

Especially the endothelial cells forming the walls of

small-blood-vessels, arterial as well as veinous, are carrying pigment-granula also.

Diagnosis—Hemosiderosis of the skin in a case of general hemochromatosis."

As the patient's home was in a distant city she could not be kept under observation for further study at *that time (March, 1924).*

Because of the fact that both the suprarenals and the anterior lobe of the pituitary have some influence on pigment metabolism she was given suprarenal (whole gland) grs. II and pituitary anterial lobe grs. V TID by mouth.

August 24, 1924, she presented herself for further study. Her complaints were as before and in addition some "heartburn" had been present for a few days. This disappeared within a week. It had also been present some weeks ago when even water seemed to aggravate it and she ate very little because of the distress.

The physical findings were unchanged. The laboratory findings were as follows:

Blood chemistry—

Sugar	81 mgs.
N. P. N.	30 mgs.
Calcium	8 mgs.
Uric acid	4.2 mgs.
Creatinin	1.5 mgs.

Renal function showed a phthalein output of

60% the first hour
10% the second hour
200 cc excreted the first hour
60 cc excreted the second hour

There was neither sugar, albumin, nor casts in the urine at this time. The gall bladder contents, obtained by non-surgical drainage, were normal. The stomach contents showed rather low acidity but were not abnormal in any other respect. The stool was negative for blood, ova, parasites and undigested food particles.

X-Ray findings as follows:

"The accessory sinuses are apparently normal. The same was true of the sella turcica. The heart and lungs were both normal. No gall stones could be seen and the kidney shadows were normal. The gastro-intestinal tract was normal so far as could be ascertained. Films made of some of the long bones were also normal."

The basal metabolic rate was normal.

It will be noted that the sugar had disappeared from the urine and that a rather low blood sugar was found. The medication was continued.

April 8, 1925, she again reported to us for examination. She stated that she was feeling better and that her hands had gone through the winter with less discomfort than the preceding winter. The laboratory and physical findings were essentially unchanged. The medication was as follows:

Pituitary (anterior lobe)	grs. II
Suprarenal (whole gland)	grs. I
Strychnia	grs. 1/60

Sig: 1 cap. TID

She reported for examination again on December 14, 1925. The physical examination was the same as on previous visits except that the skin of the fingers was much more soft and pliable. The skin on the upper right arm was much softer. In March, 1924, when attempting to inject a local anesthetic into this area Dr. Moeller broke a number of hypodermic needles. *The skin has now softened to the extent that a needle* could be easily introduced into it.

Reports of the laboratory examinations follow:

The urine had specific gravity of 1.021 and showed a trace of albumen and numerous hyaline casts. It did not contain sugar.

Blood chemistry showed—

Sugar	89 mgs.
Calcium	9 mgs.
Uric acid	10 mgs.
Creatinin	1.5 mgs.

Blood count showed—

Hemoglobin	65%
R. B. C.	4,150,000
W. B. C.	6,300

Samples taken from the ear and from the cyanotic finger tip showed—

From the ear—

Hemoglobin	65%
R. B. C.	4,800,000
W. B. C.	9,000

From the finger—

Hemoglobin	65%
R. B. C.	4,480,000
W. B. C.	8,900

This was done at the suggestion of Dr. Mix who has noted that blood counts taken from the finger tips in Raynaud's disease show a higher percentage of hemoglobin and a greater number of red cells than counts made at the same time from the lobe of the ear.

She reports considerable subjective improvement. Her fingers are without doubt more pliable than they were before. There is more sensation in them too. Two years ago she was unable to do any sewing because her fingers were so numb. She now does all the sewing for a family of four and says she gets along very nicely with it.

It may be that this improvement is purely a matter of coincidence. We should not feel like going into a very long-winded argument over that point. But to such as may wish to accept that view of the matter it might be pointed out that no other case in the literature has ever kept on foot so long or reported even temporary improvement. Certainly the patient is entitled to the benefit of the doubt. She will consequently be continued on this medication while under our care.

6054 Cottage Grove Avenue.

SURGICAL PHYSIOLOGY OF THE PANCREAS

W. J. Hurley, M. D.
CHICAGO

As far as surgical achievement is concerned, the pancreas is a comparatively unexplored field. Perhaps the reason is that with the exception of acute pancreatitis disease of the pancreas is seldom recognized at a time when operative procedure might offer some hope of cure.

The function of the pancreas is not well understood though numerous theories have been advanced. It is considered to have two distinct functions, one as an aid to digestion and the other, a purely hypothetical one, dealing with the anabolism of the physiological system.

The pancreas is described as a compound racemose tubular gland resembling the salivary glands and containing small irregular masses known as the islands of Langerhans. In man the pancreas is situated chiefly in the epigastrium, extending transversely across the posterior abdominal wall from the concavity of the duodenum to the inner border of the spleen. It is from 5 to 6 inches in length and weighs from 85 to 90 grams. It consists of a head, neck, body and tail. Its blood supply is mainly derived from the splenic artery, the inferior pancreatic duodenal branch of the superior mesenteric artery, and numerous anastomosing branches from the adjacent organs. The veins are all tributaries of the splenic and superior mesenteric. The nerve supply is derived from the cerebro-spinal fibers coming from the vagi and the sympathetic fibers from the solar plexus.

The duct of Wirsung is the principal pancreatic duct. It has its origin in the tail of the pancreas by the union of numerous small tributaries draining that region and gradually increases in size as it courses through the body from left to right. At the neck it alters its course, bending downward and backwards in the head of the organ and lying closer to the posterior than to the anterior surface. It is in relation with the common bile duct, pierces the wall of the second part of the duodenum about three to four inches below the pylorus, opens into the lumen of the gut by a common orifice, unites with the common bile duct in the ampulla of Vater.

The duct of Santorini is an accessory pancreatic duct, draining the head primarily and the body and tail when the main duct is obstructed either by pathologic growth or when surgical interference is instituted, and emptying into the duodenum about one inch above the ampulla of Vater.

There are numerous anomalies of the pancreas, definite glandular structures having been found in different portions of the digestive tract. Recently Steiger[1] reported an accessory pancreas in a diverticulum of the lower ileum causing a subacute invagination of the intestine.

There are several more or less characteristic symptoms of pancreatic disease which result from the cessation of pancreatic secretion and consequent disturbance of digestion and absorption of food. Among these are fatty diarrhea, imperfect digestion of proteins, rapid emaciation, lipemia and lipuria. Glycosuria is an important symptom and the role of pancreatic disease in the pathology of diabetes is a leading one.

Acute pancreatitis in its most severe form is fortunately not common. When once seen the picture is so striking that it is never forgotten. The attack begins suddenly with intense pain in the epigastrium, followed by vomiting and collapse. The shock is more pronounced than that met with in perforated gastric or duodenal ulcer. The treatment is surgical and consists in exposing the pancreas and instituting free drainage. Where the acute symptoms are not recognized the case may go on to necrosis and death within a few days.

Chronic pancreatitis is characterized chiefly by the formation of fibrous tissue in the gland. Opie recognizes two types, the *interlobular* in which the fibrous tissue is chiefly between the lobules, and the *interacinar*, in which a new growth of interstitial tissue invades the lobules and penetrates the acini.

Interlobular pancreatitis in the vast majority of cases is secondary to diseases of the biliary passages, chiefly gall-stones. Ulcer of the stomach or duodenum and chronic duodenitis are the next most common causes. Microscopically this form is characterized by the presence of coarse strands of connective tissue between the lobules and more or less atrophy of the secreting parenchyma. The cells forming the islands of Langerhans are not affected until the late stage. In the interacinar form there is very early degeneration in the islands of Langerhans and a consequent glycosuria. The treatment of the interlobular form is directed toward the underlying cause, while that of the interacinar is the usual treatment for diabetes mellitus.

Carcinoma of the pancreas occurs less frequently than does carcinoma of other abdominal organs. At the Chicago meeting of the American Medical Association in 1924 J. J. Gilbride[2]

1. Steiger, W. Wien. klin. Wochenshrft., 1925, 38, 909.

2. Gilbride, J. J. Jour. Amer. Med. Asso., 1924, 83, 984.

reported 11 cases of carcinoma of the pancreas, 10 primary and one secondary to a carcinoma of the rectum. The treatment is usually palliative for the reason that the cancer has usually invaded other organs before operation is attempted.

Sarcoma of the pancreas is rarely a primary tumor. Gilbride in the same paper reported one case.

Cysts of the pancreas are of several varieties. Hemorrhagic cysts are sometimes the result of necrosis of portions of the organ. A hematoma may later be converted into a serous cyst. Retention cysts are caused by obstruction of the larger pancreatic ducts by calculi, tumor, strictures, etc. Proliferation cysts, cystadenomata, are usually benign but may undergo malignant degeneration. In this connection one must also consider the pseudo-pancreatic cysts or the cystic accumulations in the lesser peritoneal cavity adjacent to the pancreas.

The following cases of disease of the pancreas have come under my observation:

Cyst of the Pancreas. 1. The patient was a policeman, aged 45, who complained for some time of a fulness in the left side of the abdomen, particularly noticeable on bending over. Physical examination showed a palpable mass in the left hypochondrium extending down into the kidney region, slightly fixed and tender on pressure. X-ray examination of the gastro-intestinal tract was negative. An exploratory operation was performed. A cyst of the pancreas was found. The anterior border was firmly fixed to the spleen and was freed with difficulty. Considerable hemorrhage ensued but was controlled by pressure. The tail of the pancrease was then brought into view and five interrupted mattress sutures placed in its contents. The cyst was excised. A small amount of hemorrhage ensued but was easily controlled. Drainage was inserted and the abdomen closed. The patient made an uneventful recovery. It is now six years since the operation and the patient is still in good health.

2. The patient, a male, aged 21, consulted me in July, 1919, complaining of a fulness in the stomach especially marked after the taking of food. This had been present for two months. Physical examination revealed tenderness in the epigastrium. X-ray examination showed the stomach divided into two compartments. An exploratory laparotomy was advised. On opening the abdomen the stomach was found displaced but there were no signs of inflammation or tumor mass. On incising the gastrocolic omentum and exposing the pancreas, a cyst about the size of a grapefruit attached to the lower portion of the pancreas came into view. The cyst and pancreas were freely movable. The cyst was completely removed with a small portion of the pancreas. The cut surface of the pancreas was approximated with interrupted catgut sutures. A drain was inserted. Very little drainage followed and the drain was removed in ten days. The patient left the hospital in 16 days. He has been examined repeatedly during the past five years and there is no evidence of recurrence.

Chronic Pancreatitis. I have had several cases in which a chronic pancreatitis was found at operation as the result of either gallbladder or stomach disease. The removal of the underlying pathology cured the pancreatitis.

Acute Pancreatitis. On January 1, 1919, an adult male was admitted to the hospital in a semi-comatose condition, with the history of having had stomach trouble for the preceding five year. A few days before admission he had had a severe attack of abdominal pain followed by vomiting and diarrhea. On admission the temperature was 104 and pulse 135. The abdomen was opened and a serosanguinous fluid escaped. The pancreas was greatly enlarged. An opening was made into the fluctuating portion of the pancreas and a considerable amount of purulent material escaped. The patient died the following morning. No autopsy was permitted.

Had this patient been seen at the onset of the attack surgical treatment might have been of some avail. It is unfortunate that this type of case is often not recognized until too late.

CONCLUSIONS

1. Pancreatic conditions are many times erroneously diagnosed.

2. The pancreas should be explored in all cases presenting symptoms referable to the gallbladder, liver, stomach and duodenum.

3. In chronic pancreatitis the underlying cause should be removed and the pancreas indirectly drained either through the gall-bladder or stomach.

4. All pancreatic cysts that are not inflammatory should be removed if possible, if necessary sacrificing a portion of the gland itself.

6556 S. Halsted Street.

PELLAGRA-CASE REPORT

C. George Appelle, M. D.
CHAMPAIGN, ILL.

May 29, 1924. Patient is a white male, aged 72, height about 5 ft. 7 in., weight about 135 lbs. (has lost about 30 lbs.). He has always lived in Central Illinois, and has never been ill. Fifteen years ago he had the left little finger amputated because of an injury. He has had no serviceable teeth for twenty years. He is the father of three healthy children.

Present Complaint: General weakness, no appetite, pains in the legs, feet, arms and

hands, lack of strength, inability to walk much because of pain in the calves. "Down in the dumps about all the time" because condition is growing worse instead of better. Moderate itching of the skin of the hands, about the eyes and scalp. Soles and palms have a tingling sensation at times. Their is no soreness of the tongue; urination is normal, the bowels are regulated with mild laxative. Sleeps well.

History of Onset: August, 1923, he noticed a failing appetite and loss of strength. In September he noticed erythematous patches on the cheeks which extend to the eyelids. In about

Fig. 1.—Showing patches on the knees, wrists and hands, arms, etc.

seven days, similar patches occurred on the backs of the hands and wrists including a band over the flexor surface of the wrists. Patches occurred on the back of the neck and also lower down on the shoulders. The skin of the knees was similarily affected as were the points of the elbows. There was no involvement of the dorsal aspects of the feet. These areas of erythema were of a deep dark red and had a sense of heat. The itching was slightly annoying, especially on the backs of the hands and cheeks where some vesicular lesions occurred. There was pain in the forearms and hands and also the legs as of a neuritic nature. In about three weeks the redness faded and the skin peeled in rather large scales leaving a "smooth shiny reddish pink surface."

No preceding or concurrent diarrhea was noted but rather a slight tendency to constipation. The tongue was not sore, and there were no spells of vomiting. There was a distinct falling off in the appitite. He had spells of "the blues," whereas formerly he had always been of a cheery disposition. Lassitude and weakness were marked with more or less pain in the extremities.

Physical Findings: Patient is fairly nourished, he is markedly stooped. He is able to sit up and walk about. The temperature is 98 and pulse 74.

The skin is dry and wrinkled. About the eyes and on the scalp there occurs a scaly desquamation. The backs of the hands and wrists show a very slight brownish discoloration. Similar areas occur on the forearms and arms. No definite discoloration is noted over the dorsi of the feet, the knees or back. The skin generally is dry and scaly.

The eyes show arcus senilis, with normal movements and pupillary reactions. The nose appears negative. The tongue looks clean, moist and somewhat pale. The teeth are absent and the throat appears negative. The thyroid gland is not enlarged and there is no cervical adenopathy.

Chest: Shoulders markedly stooped, contour is symmetrical and the movements are free. Examination of the lungs is negative. The heart is slightly enlarged, shows an occasional extrasystole, and is free from murmurs. Blood pressure S. 120, D. 70.

Abdomen: Liver, kidneys and spleen are not palpable. There is some tenderness on deep palpation in the epigastrium, no distention, and the hernial apertures are secure.

Extremities: Wasting of the musculature generally. The left little finger is absent. Tenderness in the calves on firmly grasping the muscle mass.

Reflexes: Knee jerks diminished, no Rom-

berg, Babinski or ankle clonus; cremasteric and abdominal reflexes active. (At subsequent examinations material variations were noted in the knee jerks).

Laboratory Findings: Urinalysis negative, W. B. C. 10,000-R. B. C. 4,200,000 stained blood smear shows preponderance of polymorphs, five eosinophiles and three basophiles tabulated in 100 cells counted. Blood Wassermann is negative for lues.

Subsequent Course: Patient was put on the Goldberger regimen, but the lack of appetite made feeding extremely difficult. The following abbreviated notes are extracted from the record:

July 12, 1924—Back of hands to last finger joint half way to flexor surface of fingers show erythema; symmetrical patches of erythema on arms, elbows and knees.

July 21, 1924—Dorsal wrist patch has extended in band form over flexor surface; symmetrical patches on both forearms; eye areas continue red, scalp appears red and scaly; previous eruption about the same.

August 5, 1924—Red patches on the back of neck, either side of the spine, sacral region, and both forearms, ulnar aspect. Course is downward.

August 10, 1924—Consent obtained to take photographs which accompany this report. The erythema has faded somewhat.

September 13, 1924.—Brownish discoloration over former erythematous areas. Occasional vomiting. Gradually failing.

September 21, 1924—Confined to bed most of the past week.

September 24, 1924—In bed; temperature 100. Lungs show rales.

September 25, 1924—Temperature 101; respiration 24, Hypostatic pneumonia.

September 26, 1924—Temperature 99; respiration 18, feels easier.

September 29, 1924—Yesterday onset of severe diarrhea—requiring opium and bismuth for rest.

September 30, 1924—Died 8:30 a. m.

Comment: Pellagra is infrequent in this section. The edentulous condition of the patient seems to support the diet deficiency theory of this disease.

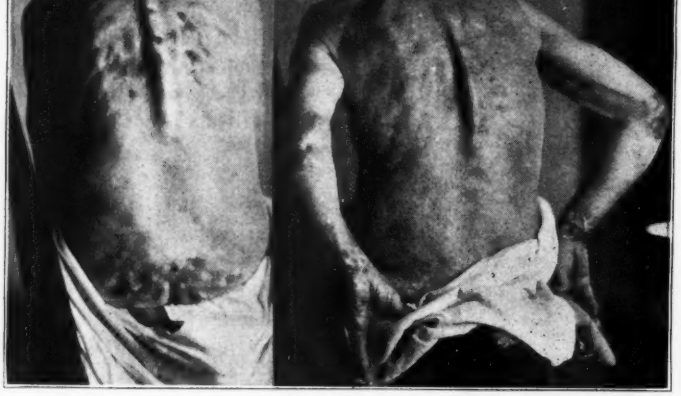

Fig. 2.—Patches of involvement of skin of back and sacral region.

Fig. 3.—Shows patches across flexor surfaces of wrists and points of elbows.

Robeson Building.

THE TREATMENT OF FIBROIDS*

W. C. Danforth, B. S., M. D., F. A. C. S.
EVANSTON, ILLINOIS

The treatment of fibroids may seem a trite subject and it may seem to some that the question was long since settled. Although much has been written and spoken upon the subject, it is an important one, for fibroids are a frequent finding in gynecologic work. For the purpose of illustration I will indicate by tables the methods used and results attained in a series made up of the last one hundred cases which have come under my care. The operation of

*Read before the Chicago Medical Society, December 2, 1925.

hysterectomy with intra-abdominal treatment of the cervical stump seemed to place the treatment of these growths upon a permanent basis, with results so satisfactory that little more could be expected, yet the advent of radium enabled us to manage a part of them with great satisfaction without operation. We may say that today we may adopt one of three courses, operation, irradiation, or, in a certain portion of the cases neither may be needed. When no active treatment is used, we should be careful to state that, while at the time a given case is seen by the surgeon no interference is indicated, this holds true only for the time at which the statement is made. At a later date changes in the growth may make an inactive course no longer advisable. A statement that, in my experience for example, a certain percentage of tumors should be let alone, may be misleading. If every surgeon could follow all of the cases of fibroid which he sees through their entire life history, he would find some which required no treatment when first seen, needing operation or irradiation at a later date. An unqualified statement, therefore, that any definite proportion of fibro-myomata should be let alone may well be deceiving.

My own experience seems to show that tumors which, first, are not causing bleeding, second, which are not causing pain by pressure, and third, which are not increasing rapidly in size may be left alone. In addition, during the reproductive years, one should consider whether the tumor is so located or of such a size as to interfere with labor. In all cases in which an inactive course is chosen the women is advised as to the necessity of periodic observation and is particularly counselled to return should abnormal bleeding appear or should any pelvic discomfort be felt.

The addition of radium to our therapeutic armamentarium has enabled us to treat a portion of our cases of fibro-myoma non-operatively. The results of this mode of treatment is, in intelligently selected cases, very satisfactory. The addition of a new means of treatment is often the cause of much misdirected enthusiasm, and radium has had its full share of this. Time enables a true estimate of the value of any method to be made. We know today that a large part of the fibroids which are seen by surgeons are not suitable for irradiation. Certain very definite and generally recognized contra-indications exist and these must carefully be regarded.

In order completely to control bleeding from a fibroid sufficient irradiation must be given to cause menstruation to cease, that is, ovarian activity must be destroyed. It is therefore inadvisable to irradiate tumors in young women. In these operation is better, as it enables the surgeon to conserve one or both ovaries, and in some instances, the uterus itself.

Table 1. AGE OF CASES.

20-30	4
30-40	35
40-50	47
50 plus	14
Colored	38
White	62

The use of radium in the uterine cavity is unsafe in cases in which the pelvis is also the seat of infection, present or past. Experience has only too clearly shown that pelvic inflammation may become active again after irradiation. Inflammatory disease must be very carefully inquired after in all cases in which the use of this form of treatment is considered. No woman who has or has had a pelvic infection should be subjected to irradiation.

Table 2. CHARACTER OF TREATMENT.

Operation	84	Laparotomy	82	
		Vaginal	2	Cervical myoma Pedunculated submucous fibroid
Irradiation	16			

The size of the growth imposes limitations upon us. Our own rule has been to irradiate no tumor which is larger than a three months pregnancy, unless some condition exists which makes operation inadvisable. A tumor which causes the uterine cavity to be so tortuous that difficulty would be experienced in introducing, or, far more important, removing the radium capsule, should not be irradiated. An ovarian growth co-existing with a fibroid should cause the rejection of irradiation. Polypoid growths in the uterine cavity, or growths extending laterally to a considerable distance from the uterine cavity should not be treated by irradiation.

In short, we may irradiate fibro-myomata in women over 40, if the growth is not larger than a three months pregnancy and if the woman has never had a pelvic infection. With these limitations, the results of irradiation are satisfactory. We may expect to relieve the bleeding in 90%

of the cases with one treatment of 1,200-1,500 milligram hours. Danger is very slight. In about 170 cases in which irradiation has been used in the Evanston Hospital for uterine bleeding of benign origin, fibroids or myopathic bleeding with no tumor, there has been no death and only slight morbidity. We much prefer to use two capsules of radium placed tandem, each of them containing fifty milligrams. This causes a much larger area of the uterus to be subjected to irradiation. It also shortens the time of application by one-half and therefore is less troublesome to the woman.

X-ray treatment has not been mentioned. Our experience would indicate that very few fibro-myomata should be treated by X-rays. Radium or surgery will meet the indications of all but the most exceptional case. In the series herein reported no case has been so treated. It seems scarcely logical to subject the abdominal wall, the bladder, and a part of the intestines to the rays, which, except in very large growths, must be traversed by them before they reach the uterus.

Surgical treatment is used in a considerably larger number than is irradiation. Our choice is in the very great majority of cases for abdominal operation. Vaginal operation is used only for pedunculated fibroids which are easily accessible from below or for the rare cases of fibroids of the lower part of the cervix. One of each of these forms a part of this report.

Abdominal operation may be either hysterectomy or myomectomy. Myomectomy has recently attracted some attention, particularly because of the publications of the Mayo Clinic and of C. Jeff Miller. In young women in whom the preservation of the uterus is of importance, and in whom the relationship of the tumor to the uterus is such that a reasonably serviceable organ may be left, myomectomy may be chosen. In older women it would seem wiser to excise the uterus. In younger women in whom the excision of the tumor will leave a badly mutilated uterus, removal of the uterus should also be done. Our own preference is for the removal of the uterus. Myomectomy is reserved for those women in whom the preservation of the power of reproduction is of real importance.

Table 8. OPERATION

Both ovaries retained	12
One ovary retained	22
Both ovaries removed	39

In answer to the question, should a sub-total hysterectomy be done or should the entire organ, including the cervix, be removed, we prefer the sub-total operation except in those cases in which a possibility of malignancy exists or in which the cervix is seriously diseased. It is true that those who advise the routine performance of total hysterectomy base their argument on the possibility of cancer in the stump. This danger has been over stated. It is possible for malignancy to appear in the stump but I believe that the greater operative risk which is taken in removing the entire uterus more than balances the danger of the appearance of cancer in the stump. Giles of London states that in 118 cases no malignancy appeared in the cervical stump. In between two and three hundred hysterectomies of my own, the records of which were recently looked over, one case of cancer in the retained stump has been seen and I am quite convinced that a carcinoma of the corpus was overlooked in that case. Clark, in a very recent article giving the results of the treatment of fibroids in the clinic of the University of Pennsylvania, has stated that their experience causes them to favor the subtotal operation and upon grounds quite similar to those just given. Crossen of St. Louis also believes that the operative risk of the more extensive procedure outweighs the risk of later malignant disease of the cervix. If, during an operation for fibroid, the surgeon should have reason to fear that a carcinoma of the body is also present, the uterus after removal may be opened immediately and inspected. Should its appearance cause him to think that carcinoma may be present, the cervix may be removed at once. Any suspicion of malignancy before operation should cause a total operation to be done.

We greatly prefer to leave one or both ovaries. This is always done unless their condition is such that later trouble seems likely. An infected ovary is better out, for, as reproduction is no longer possible in any of these women with the exception of the few who are treated by myomectomy, our single goal is the woman's health. She is better off with healthy ovaries remaining in the pelvis. An infected ovary is

likely to trouble her and quite probably lead to further surgery later. Repeated operations for the same trouble cause the woman to be subjected to needless risk and suffering. It may also be suggested that they do the medical profession no good. It should be repeated, however, that conservatism wherever possible should be the rule.

The mortality of the sub-total operation in expert hands varies from 1.5% to 2%. These figures are taken from hospitals and clinics in which the operative work is done by men of skill and experience. Black estimates that the mortality in the hands of the average operator is 5.29%. The same writer reports the mortality of the total operation is 9.44% in average hands. These figures are higher than those found in the best clinics but the relationship between the risks of the two operations is probably about the same.

As the great majority of operations are done by average and occasional operators, it seems wiser to regard the subtotal operations with its lower mortality as the routine procedure. Particularly is this so when in the hands of experienced operators the danger of carcinoma in the stump of the cervix seems to be balanced by the increased risk of the operation.

Vaginal hysterectomy is practically excluded from our list of available surgical methods. We have done it but once in several years in the treatment of fibroid. The patient was an elderly woman who had a small fibroid associated with a prolapse. In the series discussed here it has not been done at all. Other vaginal procedures are needed only in case a pedunculated submucous growth is present, or when a cervical myoma is found. The latter is a rather rare occurrence. It is wiser not to remove a submucous growth vaginally and do an abdominal hysterectomy at the same sitting. It is wiser to defer the latter till some weeks later, as the uterine wall, when a growth of some size has protruded into the vagina for any length of time, is apt to be invaded by bacteria to a degree which will very materially increase the risk of operation.

The treatment of fibroids today seems to be on a satisfactory basis. Results in experienced hands are exceedingly good. In the series here given the gross mortality is 1 per cent. The radium mortality is nil and the operative mortality is 1.2 per cent. The one death occurred suddenly, without any evidence of intra-abdominal trouble, in a woman with a history of previous cardiac trouble, and who had had a difficult hysterectomy for a growth extending downward under the bladder. Autopsy was not allowed.

Table 4. IRRADIATION

Total number	16
Successful relief from one treatment	14
Further treatment needed	2
Operation	1
Bleeding decreased	1

AGES OF RADIUM CASES (16)

30-40	40-50	50 plus
2	10	4

It should be indicated that, as shown in table one, 38 of this series were colored women. These were cared for in a small hospital for colored people in Evanston. None of these were irradiated. A very large number of them had accompanying lesions in the pelvis of an inflammatory character, which of itself would exclude them from radium therapy. No radium equipment is available in this institution, which renders its use difficult, although in case of necessity, as in carcinoma, we have taken our own material there for use. The use of irradiation, therefore, has been restricted to the sixty-two white women. Of these, sixteen were radiated, a ratio of one to three and six-tenths.

Table 5. MORTALITY

100 cases	One death
Mortality of series	1%
Mortality of Operative Cases	1.18%

We may fairly say that radium should be a part of the equipment of every clinic or hospital service which does any considerable amount of gynecological surgery. The decision, however, as to whether radium or surgery should be chosen for the management of these cases should be made by one who is able to use either one, and who, in consequence, can decide without prejudice. Most important of all, he should have sufficient experience in gynecologic diagnosis and pathology to be able to exclude from irradiation those cases which, because of associated legions or size, are not suited for it. Radium should not be a competitor of surgery in the management of fibroids, but rather a collaborator. Satisfactory results from the use of radium will follow only with a careful selection of cases and a rigid exclusion of those for the treatment of which it is not adapted.

THE PROGNOSIS OF INTRACRANIAL TUMORS*

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In any discussion upon the prognosis in the surgical treatment of intracranial tumors it is necessary to establish several standards of measurement. In turn, the realization of these aims is dependent upon at least three important factors. The citation of statistical figures may be so interpreted as to prove what one wills. Therefore, today, following a brief and necessarily incomplete discussion of the question, I wish to show you motion pictures of patients whom I feel have met in part, if not completely, the requirements of our objectives.

It would appear to me that the results of operative interference in intracranial tumors should be judged upon, 1, the early or immediate fatalities; 2, the post-operative complications; 3, the ability of the patient to resume his social and economic position; 4, the relief and duration of the relief of suffering and particularly the avoidance of blindness, and 5, the prolongation of life. Mere numbers and percentages would convey but very little of the final results, so I will allow you to judge the results as you will.

The ability of the neurologic surgeon satisfactorily to meet these five prognostic dicta is directly dependent upon an early diagnosis of the lesion and the consequent early institution of surgical therapy; upon the character of the histologic structure and location of the tumor, and upon the type of surgical procedure employed.

It is beyond the scope of my aim today to enter into a discussion of neurologic diagnosis. It may be well, however, to emphasize that while the general symptoms of increased intracranial tension: headaches, vomiting and choked discs, are of diagnostic value, they are of no localizing significance and, moreover, are usually late in the chronology of the development of symptoms. When papilledema with the resulting secondary optic atrophy is present, the neurologic surgeon has already been placed at a distinct disadvantage in accomplishing his goal. Consequently, it is important to keep in mind the possibility of intracranial tumors. A complete, careful physical and neurologic examination is, to our mind, the most important diagnostic procedure. While there are instances in which an accurate neurologic examination fails to localize a tumor, it is in these cases that the neurologic surgeon receives little practical aid from mechanical diagnostic procedure. Ventricular pneumography has very specific indications and we feel that a purely diagnostic procedure which has a direct mortality of ten per cent should be used with the greatest conservatism.

We have come to group intracranial tumors according to their histopathological structure rather than by their anatomical location. The pathology of intracranial tumors directly concerns the neurologic surgeon, since by the correlation of clinical findings and pathology will he be able to extend and limit his lines of prognosis.

This fact is particularly true of that group of intracranial tumors which arise from the embryologic spongioblasts and which are therefore essentially a proliferation of the supportive or glia tissue. The gliomas constitute about 40 per cent of all intracranial tumors. Some are rapidly growing, soft, infiltrating masses, whose boundaries are difficult to delimit from normal cerebral tissue. Some are slow growing, more firm and tend to encapsulate themselves. Others undergo cystic degeneration, a characteristic which has given rise to the term, cystic glioma. On the other hand a considerable number of these tumors remain rather small and circumscribed, and produce a large cystic cavity, the so-called gliomatous cyst. Many of these tumors, after having been accurately localized and attacked surgically are susceptible to radium and deep X-Ray therapy. Others grow rapidly if interfered with in the slightest manner. It may be of interest to you to know that in Cushing's series of gliomatous cysts the expectation of life after surgical interference is greater than in carcinoma of the breast, in spite of an operative mortality of 14 per cent. Seventy-nine per cent have survived three years and over, and seven per cent have passed the ten year limit. The introduction and use of the silver stains perfected by Cajal, Hortega and others make it possible thoroughly and accurately to study these tumors microscopically and to correlate their clinical course. In such a manner of study will we be able to progress in the surgery of the gliomas.

*Read before the Illinois State Medical Society, May 19, 1925. Quincy, Section on Surgery.

The first patient to be shown as having had a tumor which belonged to the group of gliomas is E. G., a chief operator for the telephone company. This patient had symptoms of ataxia, dysmetria, incoordination and vertigo which had been present for six months. In addition she had an inconstant nystagmus, more marked upon looking toward the right. These symptoms together with headache, vomiting and a low degree of papilledema were highly suggestive of a right cerebellar tumor. She was operated upon and a gliomatous cyst of the right cerebellar lobe was evacuated, the original tumor removed and as much of the cyst wall resected as was possible. This picture was taken five months after her operation and shows the complete absence of symptoms of cerebellar involvement. She has returned to her original occupation; is quite free from any symptoms as you see and her papilledema has entirely disappeared. A report from her manager states that she is doing excellent work.

The next patient, C. K., also had a gliomatous cyst of the right cerebellar lobe and whose symptoms of ataxis, dysmetria, inco- ordination, vertigo any nystagmus had seriously interfered with his profession as a teacher of violin. His first symptom had occurred a year previously and it was not until he had a bilateral papilledema of five diopters with beginning loss of vision that he was brought under observation. He was operated upon; the cyst was emptied and the cyst wall fixed with Zenker's solution. This picture shows the patient two weeks after operation. His ataxia is marked and he is unable to walk alone. His headaches had entirely disappeared. Examination two months later shows a decided improvement. The patient walks alone and by exercise is re-educating his extremities in the performance of finely co-ordinated movements. He has received one series of three deep Roentgen-ray treatments. I do not believe that this patient will be able to carry on his vocation again but I do believe that he will find his place in the economic and social world and will carry on.

The third patient is illustrative of the seriousness of allowing these conditions to go on uncared for until it is too late for surgical interference. M. B., a child of 13 years, was brought to the hospital with the advanced picture of a cerebellar destruction. Her first symptoms of ataxia inco-ordination and headache had occurred three years previously. At the time of observation this child was totally blind and was suffering from a constant severe headache. She also illustrates a surgical difficulty often encountered in these large tumors of the cerebellum. She was prepared for operation, anesthetized and turned upon her face into the cerebellar position. This procedure was immediately followed by the cessation of respiration. Her heart continued to beat for three hours but in spite of continuous artificial respiration she died. Upon autopsy a large soft glioma, which was cystic, occupied the entire left cerebellar hemisphere. The cerebellar tonsils were herniated down through the foramen magnum. The medulla was thin and broad and had lost all of its normal landmarks. The anesthetic proved to be the final load for the respiratory center. This pathologic herniation of the cerebellum into the spinal canal is commonly encountered at operation and constitutes a real surgical difficulty. Certainly we were asked to do the impossible in this case yet as late as it was the child deserved her opportunity. The lesson from the delay in this instance is obvious.

The patient, W. S., illustrates the unfortunate results which occur when some of the gliomata are attacked surgically or exposed to deep x-ray or radium therapy. This man first presented the symptoms of an irritative lesion of the right parietal cerebral cortex, in that he had sensory disturbances in his arm which ushered in localized epileptic seizures. He had the symptoms of increased intracranial pressure and a tumor was diagnosed. Upon operation a large plexus of cerebral veins, which were evidently engorged from obstruction, were disclosed over the left cortex. No definite tumor, however, was seen. The patient was later given intensive deep x-ray treatments. Within a month he had developed a left sided hemiplegia, hemianesthesia and hemianopsia plus terrific pain over the left half of his body which was characteristic of thalamic irritation. He rapidly deteriorated and died. The autopsy showed six separate well defined gliomas in the cerebral hemispheres. The largest was found in the area of the posterior limb of the right internal capsule and the right thalamus and explained the final development of his left sided symptoms.

The last patient of this group is L. R., who was operated upon ten days before this motion picture was taken. This patient complained of numbness in the left side of his face, diplopia, an incomplete aphasia and headaches. He exhibited a bilateral papilledema, a paralysis of the left fifth and sixth cranial nerves and a verbal aphasia. Exposure of the left lower frontal and temporal lobes showed a soft, undelimited, infiltrating glioma. A portion of the tumor was removed and a microscopic section proved the diagnosis. Two months have now elapsed and the patient is about although unable to carry on his work as a printer. His symptoms still persist but have not progressed. The papilledema has slowly decreased and the headaches have disappeared. The fact that surgical exposure and partial removal has been attended with so little untoward symptoms makes me believe that this patient may respond very well to the deep x-ray treatment which he is receiving.

The *adenomas* make up about 20 per cent of all intracranial tumors and for all practical purposes may be said to arise from the hypophyseal gland. The clinical pictures of the acromegalic and Froehlich's symptoms, due to involvement of the anterior and posterior lobes of the pituitary, respectively, are familiar. Pathologically the adenomatous tumor of the acromegalic is characterized by the abundance of cells containing eosinophilic granules, while the posterior lobe tumors show a predominance of basophilic granules. There are only two indications for surgical

interference in these tumors, despite the fact that they lend themselves so well to surgery. Those indications are (1) the loss of vision with an accompanying diminution of the visual fields and (2) headaches. Deep X-Ray therapy may prove of some definite help in these tumors without operation, but such is not the case at present. The surgical removal of these tumors with the almost immediate relief of the headaches and widening of the visual fields is one of the encouraging chapters in neurologic surgery.

L. K., a housewife, felt certain that she first began to have severe bitemporal headaches and blurring of vision one year previous to examination. The broad spade-like hands, prognathism, enlarged tongue and widely spaced teeth are, as you see, typical of acromegaly. The patient had ceased menstruating three years previously and was suffering from severe headaches. Her visual acuity was greatly diminished and she had a pronounced bitemporal hemianopsia. The x-ray plate of her skull showed a large sella turcica, whose floor protruded into the sphenoid air cells. The motion picture shows the patient four weeks after an adenoma the size of a large marble had been removed through a transfrontal osteoplastic flap. At this time the patient's headaches had entirely disappeared and her visual fields have become quite normal in outline. She is now carrying out her household duties, some six months after her operation.

A. O. is another example of acromegaly occurring in a female. The symptoms were identical with those of the previous patient. Loss of menses proves to be one of the earliest symptoms of acromegaly and in this patient had occurred four years prior to the onset of her severe headaches. This picture shows her condition on her tenth day post operatively. Her headaches have not recurred and her visual fields are already ten degrees wider. She should make an uninterrupted recovery and again take care of her household.

J. S. is a young man whose physical appearance is characterized by the feminine distribution of his pubic hair, by his large breasts, and tapering arms and legs. This patient gave a history of headaches and a loss of vision which had been present for at least two years, but had rather gradually disappeared during the past year. He still complained of excessive thirst and pollakiuria. His x-ray picture showed a large broad sella with a thinning of the clinoid processes. The floor was broken through into the sphenoid air cells. The patient showed a slight diminution of visual acuity and no visual field defect. This young man therefore illustrates the fact that headaches and visual field defects should constitute the surgical indications for the removal of pituitary tumors. This case also illustrates the fact that occasionally by eroding their way through the floor of the sella and into the sphenoid air cells, these tumors may provide a satisfactory local decompression for themselves.

The meningiomas comprise a group of tumors which arise from the arachnoid membrane and from the arachnoid villi, in the region of the dural sinuses. They involve the cortical tissue only by contiguity and because of their circumscription are capable of removal in their entirety. These constitute 10 per cent of all tumors arising within the cranium. Their removal, as may be suspected, is at times a surgical difficulty. They are highly vascularized and their proximity to the sinuses makes them doubly dangerous. However, by the use of a method of blood collection and replacement during these operations, we are now able to deal with them more confidently. These tumors are typically endothelial in microscopic appearance and when removed in toto do not recur. They form a small but encouraging group of intracranial tumors and the patient may be returned to a real social and economic position.

H. B. is a good example of what may be accomplished when this type of a tumor is treated early in its course. Five years ago the patient first had localized convulsive seizures in the right arm. She had been gradually developing dispositional and habit characteristics foreign to her usual self. As a patient who had developed convulsive seizures in adult life she was suspected of having a brain tumor. At the time of examination she showed a bilateral papilledema of four diopters and had a slight increase of the deep tendon reflexes on the right side; diminished superficial reflexes on that side and a suggestive Babinski. The stereoscopic x-ray film of the skull showed an area of mottling in the right frontal bone which later proved to lie directly over the tumor mass. Often these tumors produce cranial hyperostoses or as in this case they erode the inner surface of the skull in an irregular manner. Upon operation a tumor weighing 98 grams was removed intact together with the portion of the dura mater to which it was attached. It is very important if one wishes to prevent a recurrence to avoid fracturing the tumor or leaving a small piece attached to the dura mater. This patient is taking care of her household duties and her three children. She has been quite well, has had no recurrence and shows no residue. Had this patient been allowed to go on without care it is problematical what the residual paralysis might have been.

Next in frequency of occurrence are the *neurinomas,* or more commonly termed tumors of the cerebellopontile angle. These tumors constitute 9 per cent of all intracranial new growths. These growths are benign in nature and arise from the sheath of the eighth cranial nerve. Microscopically these tumors are characterized by fibrous and reticular tissue, arranged in palisades and whorls. Because of their

benignity these growths should be recognized and referred to the neurologic surgeon as early as possible. The most important factor in the early diagnosis of the neurinomata is the chronology in the development of the symptoms. As these tumors increase in size and involve more and more of the cranial nerves and other structures found in the cerebellopontile angle they receive an added blood supply from the basilar vessels. This fact then often makes their removal in toto impossible, and it becomes necessary to split the capsule of the tumor and remove it piecemeal as completely as is possible. Since they are slow growing and benign, a complete resection en bloc is not absolutely necessary.

H. H. is a dentist by profession who began to have a peculiar and persistent buzzing noise in his right ear five years before he came for surgical aid. He then noted that he had lost his hearing in the right ear. In order of sequence he then developed difficulty in facial movements upon the right side and later a heavy, numb feeling over his right cheek which attracted his attention most forcibly when he shaved. He continued at his work however until he developed a distinct ataxia and loss of co-ordination in the right upper extremity. This so interfered with his work that he consulted a neurologist who correctly diagnosed the lesion and advised an immediate operation. It was not until two years later that he came under my observation and at that time his gait was distinctly swaying and drunken in character with deviation toward the right. He had the typical cerebellar type of nystagmus which you see in the picture. A sub-occipital craniotomy was performed and a neurinoma the size of a large English walnut was disclosed in the right cerebello pontile angle. The tumor was closely attached to the pons and was abundantly supplied from the pontine vessels. Consequently the capsule was incised and the tumor removed piecemeal. Upon the last examination six months after operation the patient has practically recovered from his ataxia and performs finely coordinated movements of the right upper extremity very well. His facial paresis and analgesia have improved but have not entirely recovered. This patient will not be able to resume his dental profession but is now earning his living and supporting his family as a truck gardener.

The next example of this group of tumors is H. O. from whom a similar tumor was removed four years ago. This patient's symptoms were practically identical with those cited above. Upon operation a large tumor was removed in its entirety since its surrounding attachments were fortunate. As you see the patient is quite well. He has carried on his work as a business man for the past three years without further trouble. The papilledema which he had at the time of operation subsided, leaving a secondary optic atrophy. The visual diminution as a result is very well corrected by glasses.

Of the congenital tumors the craniopharyngeal pouch or *suprasellar cysts* are most frequent. These cysts arise from a malocclusion of Rathke's pouch in the embryo. They are characterized by the presence of cholesterin crystals in the yellow straw colored cystic fluid, and by their tendency to become calcified. This latter fact makes their diagnosis comparatively simple by a stereoscopic x-ray film of the skull. The results of surgical procedures in this group of tumors are quite similar to those obtained in cases of hypophyseal adenomata, although many times the complete removal of the cyst wall is extremely difficult and hazardous.

The granulomas, tuberculous and luetic in origin, the papillomas, which arise from the choroid plexus of the lateral or fourth ventricles and the ependymomas, which take origin from the ependymal living cells, make up a scattering group of intracranial tumors whose treatment is quite satisfactory. The papillomas are benign tumors which are usually cauliflower like in appearance. Their occurrence in the lateral recesses of the posterior fossa provides a tumor easily handled. The ependymomas are difficult to remove and experience has shown that they do well under deep x-ray therapy after surgical exposure.

The surgical treatment of intracranial tumors resolves itself into a direct attack upon the lesion by osteoplastic flaps and suboccipital craniotomies in cerebral and cerebellar growths respectively. The palliative subtemporal decompression operation is done comparatively rarely. This operation has a definite field, however, in tumors which are unlocalizable and in which it is highly desirable to save the patient's vision and relieve his headaches while waiting for localizing symptoms to become manifest.

F. M. was a young man who had definite symptoms of increased intracranial tension with a bilateral papilledema of four diopters. He had had several generalized convulsive seizures unaccompanied by aurae of a localizing nature. The motion picture shows the patient ten days after a subtemporal decompression had been performed. The papilledema has subsided to an elevation of one diopter and the convulsive seizures and headaches have disappeared. The patient has been at work at his occupation as a mechanic for five months and has been kept under close observation for the development of definite localizing symptoms. Upon

the first appearance of a symptom of localizing value the tumor will be directly attacked and in the meantime his vision has been saved from destruction and he has been relieved of his symptoms.

We feel therefore that the outlook for patients who have an intracranial tumor belonging to the groups of adenomata, meningromata neurinomata and the congenital tumors is very satisfactory. The majority of these patients may be returned to their social and economic positions with a residue of impaired function dependent upon the time in the course of their disease at which they are operated upon. Those patients suffering with tumors belonging to the group of gliomas have a less favorable prognosis. However, their situation as you have seen is not uniformly hopeless. The further progress in the surgical treatment of these tumors and their prognosis is dependent upon the careful microscopic study of these tumors and the correlation of the pathologic picture with the clinical symptoms and course of these tumors.

DISCUSSION

DR. LE ROY H. SLOAN, Chicago: Dr. Davis has given a very interesting presentation of the types of intracranial tumors. I am not interested in the surgical technic but purely in the diagnostic features of these tumors. We have long been taught that headache, nausea, vomiting and choked disc are the cardinal symptoms of intracranial tumors. They are the cardinal symptoms of tumors blocking ventricular circulation and giving rise to marked pressure. If anything is going to be accomplished for neurologic surgery it is early diagnosis. Early diagnosis may be based on one single detail such as the failure of the patient to recognize his fountain pen.

As to the prognosis, brain tumors such as gliomas, as Dr. Davis emphasized, offer a poor prognosis; endothelial tumors a good prognosis and likewise subtentorial tumors. In order to make the prognosis better, we must not wait for choked disc and other advanced signs but must base our diagnosis on the earlier features. The point of localization may depend upon a simple aphasia. A man may have such an aphasia early and this is of great importance to the surgeon later on. The chronology of symptom development—the sequence of events—this is what we must inquire into.

I think this has been a most splendid demonstration and has pointed out the cardinal features in the diagnosis and prognosis of intracranial tumors.

DR. LOYAL DAVIS, Chicago (closing the discussion): There is one thing I would like to add to what Dr. Sloan has said. We have a very definite method of determining pathologically just what these tumors are. There is a French school of neurologists headed by Cohoul which has given us methods of determining the types of gliomas by the use of silver stains. These gliomas comprise the greatest number of brain tumors and are unfortunately the most difficult to handle. They are divided into three or four groups. The fibrous type is the one that encapsulates itself and can be attacked comparatively easy. There are ramifications which must be left. The meningiomas are benign and simply constitute a very definite surgical difficulty and problem to solve. The main thing, of course, as Dr. Sloan has said is early diagnosis. The early diagnosis, as he said, does not depend on headache, choked disc and vomiting, which has no localizing value and is not of importance to the surgeon.

AMEBIC DYSENTERY

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In our own climate, there is probably greater need of frequent discussion of *Amebiasis* than exists in the tropics, where this disease is an everyday occurrence. We have gradually come to appreciate that diarrhoeas of this type are by no means infrequent in the temperate zone and in no case of ulceration of the colon have we a right to rule out this etiological factor, without first having made a thorough examination for amœbæ.

In this discussion, it is not the purpose to enter into the historical side of this malady.

From an etiological standpoint it is well recognized that *Entameba Histolytica* is the only organism concerned. At times another form of amœba is found in the large bowel, but is no factor in the production of disease, this being, as you know, the *Ameba Coli*. The differentiation of these two organisms offers no difficulty to the expert working in the tropics. To us who see not over a score of cases yearly, there is some feeling of uncertainty. From the viewpoint of practical medicine, if we are dealing with a case of ulceration of the colon and find in the feces motile red-cell-containing amœbæ, we have a right to assume that it is the pathogenic variety; at least it is perfectly justifiable to carry out therapeutic measures along these lines. Walker, quoted by George H. Scott, offers the following microscopic differentiation of these two amœbæ:

*Read before the Chicago Medical Society, October 21, 1925.

MOTILE FORM

ENTAMEBAE HISTOLYTICA	ENTAMEBAE COLI
1. Appearance hyaline	1. Appearance porcelaneous.
2. Refractiveness more feeble.	2. Refractiveness more pronounced.
3. Movements active in fresh stools	3. Movements sluggish.
4. Nucleus more or less indistinct	4. Nucleus distinct.
5. Chromatin of nucleus scanty.	5. Chromatin of nucleus abundant.

ENCYSTED FORM

ENTAMEBAE HISTOLYTICA	ENTAMEBAE COLI
1. Smaller	1. Larger.
2. Cysts less refractive	2. Cysts more refractive.
3. Cysts usually contain elongated refractive bodies known as "chromidial bodies"	3. Cysts do not contain these bodies.
4. Nuclei never more than four.	4. Nuclei eight, occasionally more.
5. Cysts wall thinner.	5. Cysts wall thicker.

The cysts are very important, as they are the means of transmission of the disease. Rarely, if ever, is the motile amoeba able to traverse the stomach without being killed. The more hardy cysts, are able to withstand the action of the hydrochloric acid of the stomach and travelling down to the intestines, set up the disease. Another very important fact is that after the motile amoebae have disappeared from the stools under treatment, cysts are very apt to remain and later lead to relapses. Also it is the means of propagation of the disease by means of carriers who are not suffering from dysentery. In one military camp in El Paso, Craig found among fifty-five apparently healthy men, nine carriers.

In looking for amebae in the stools, it is absolutely essential, that the specimen be examined fresh. In case the bed-pan is used, it should be previously warmed and it is imperative that there are no traces of antiseptic in the receptacle. The amoebae are very easily rendered immotile. The writer finds it more satisfactory to use either a colon tube, or preferably the stool remover of Cohnheim, as in this way we are assured of having fresh material. A warm stage for the microscope is not essential, unless the examination is carried out in a cold room. It is a good plan to have the laboratory window shut, unless, of course, the weather be unusually warm. If one desires it, he may occasionally direct a warm current of air upon the specimen, by means of a dental-insufflator. The main purpose of this discussion is to consider treatment and to emphasize the fact that this disease (which at times is cured with extreme ease) frequently either remains entirely uncured or a cessation of the dysentery is brought about only after a prolonged effort. We have at our disposal a number of drugs which are distinctly amebicidal, and as a rule we have no difficulty in killing off the motile amoebae.

Ipecac probably ranks first in general efficiency. In 1910 Vedder in the army experimented with this drug and found it was strongly amebicidal. However the drug had been used in India by the English, long before this. It was used long before Lösch discovered the organism in 1875. It is supposed to have been used in South America long before it was brought to Europe by Piso, in the middle of the seventeenth century. It is said to have been used at the time of Louis XIV in treating the Dauphin. Rogers first utilized emetine hydrochloride and published his results in 1912. Naturally the great difficulty in taking ipecac by mouth is the nausea and vomiting produced. Just before the advent into medicine of emetine, salol coated pills were being made, and were of some assistance. Even now, S. K. Simon of New Orleans, uses pills of this nature. However, the majority of physicians prefer the use of emetine hypodermatically. The writer gives along with this, Alcresta Ipecac, a preparation which is not dissolved in the stomach. Major Callendar tells me he does not believe this internal administration is necessary and in the army he uses one grain of emetine hypodermatically in the morning and a half grain in the evening, thus making a grain and a half a day and this is continued until in all eighteen to twenty grains have been administered. At this time it is discontinued regardless of the clinical course, for fear of a toxic effect from the drug, which tends to accumulate. This undesirable action exerts itself chiefly upon the heart muscle and upon the nerves, a number of deaths having been reported. Major Callendar tells me also that at the completion of his treatment, the patient is advised to return at the end of a month, at which time cysts are looked for preferably in any small pieces of mucus that may be adherent to a formed stool. In case cysts are found, then the emetine treatment is re-established.

The writer has had no experience with Emetine Bismuth Iodide. This drug is said to be especially valuable in destroying the cysts. George R. Dowling, in an article in 1923, stated that he preferred this to emetine, because of the pain in the administration of the latter and on

account of the neuritis or weakness that may follow its use. However, these objections are probably not valid. The drug is given in doses not exceeding three grains a day on twelve successive nights and should be put into a gelatine capsule or in a paper cachet.

Chaparro Amargosa is a drug which has never attained great general popularity although it has been used as a domestic remedy for many years among the inhabitants of Mexico and south-west Texas. It has been stated that Zachary Taylor's soldiers used it during the Mexican War. The name of this plant means "bitter bush" and is a shrub growing about four feet in height and belonging to the family of *Simarubaceae*. It is probably best used in the nature of an infusion made by boiling samples from all parts of the bush (including the roots, top, branches, leaves and little red berries) from 30 to 45 minutes and after straining this infusion having the patient drink a glassful four times a day and at the same time once or twice a day take as large an amount per rectum as he can conveniently retain fifteen to twenty minutes. The exact strength of the infusion cannot be stated, but it should have the color of weak tea. It seems to be non-toxic. The writer has never seen a case in which this drug was used, that has not responded immediately to treatment, the diarrhea and the amoebae disappearing on the day following the beginning of this therapeutic measure. In spite of this, relapses have been very frequent. Some years ago, P. I. Nixon of San Antonio, reported twelve cases treated with this drug, with practically 100% recovery. In a personal communication from Dr. Nixon a few years later, he stated that a number of these cases had relapses after the article had been published.

In 1908, W. E. Deeks, working in the Ancon Hospital in the Canal Zone, began using bismuth subnitrate in heroic doses. His regime was as follows:

(1) Rest in bed.

(2) Generous milk diet.

(3) Saline or plain water irrigations, 1 to 3 daily, purely for the purpose of lavage in order to clear the bowel of toxic products.

(4) Administrations of bismuth subnitrate, giving a heaping teaspoonful, equivalent to about 180 grains, mechanically suspended in almost a tumblerful of plain, or better still effervescent water, or in milk every three hours night and day in severe cases, lessening the amount when improvement was noted.

The writer has used it only in one case, that being in a patient who had not responded to emetine; the result was excellent.

The German School has recently placed great faith in a new drug known as *Yatren*. This is given in doses of fifteen grains in capsules or pills t. i. d. Also it may be given per rectum in 2½ to 5% solution, about 200 cc. The writer has had very little experience with this drug. It may be stated in passing that Neosalvarsan as well as Salvarsan has been used for amebiasis and within the past two years Marchoux of the Pasteur Institute has demonstrated the amebicidal property of a new synthetic arsenical preparation, known as Stovarsol. Foster M. Johns and S. Chialle Jamison of New Orleans have recently reported good results from this drug. They report excellent results in a series of forty-six patients. It is administered in doses of 7½ to 15 grains a day. It is claimed that in the use of this measure it is not necessary to restrict the diet, and rest in bed is not essential. In one case which was rebellious to emetine as well as Chaparro Amargosa and other drugs, Stovarsol immediately brought about relief. This patient is now having formed stools, one or two a day, without visible blood or mucus. However, the dejecta do still show cysts. This patient therefore, is apparently cured but is a carrier.

Before the days of emetine, quinine irrigations were used in most cases. These were started with a solution of 1-5000 and gradually increased up to 1-500. Although this method of treatment was quite effective, it has gradually given way to the newer drugs mentioned above.

Silver nitrate irrigations, starting with 1-2000 and running up to 1-500 were also used to some extent. This treatment however, was quite painful and the results not entirely satisfactory.

Anyone who has seen even a moderate number of cases of amoebic dysentery, soon realizes that the disease is subject to relapse and in many cases it will be necessary to run the entire gamut of our therapeutic scale. R. M. Gordon of Liverpool, stated that of 150 cases treated and observed for six months, 66% recurred.

Therefore, we should never be content merely

to have the dysentery cease and the motile amoebae disappear from the stools (which usually occurs with almost any of the recognized treatments mentioned above) but it is necessary to be on the watch for the encysted form of the parasite and the patient can never be considered as cured until after a rather prolonged period of observation.

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THE CHANGING ASPECTS OF DERMATOLOGICAL PRACTICE*

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The title of my address might seem an unnecessary one. No branch of medicine remains stationary, and our ideas on dermatologic subjects are undergoing constant revision, as are those of the fundamental medical sciences and all other specialties. Yet so striking have been some of the changes in the twelve years of my dermatologic experience, that it may be of interest to review these. My aim, as far as possible, will be to emphasize the changes that have found application in the practice of dermatology, rather than the more obscure questions of theoretical, even though scientific interest.

General Aspects of Dermatologic Thought. Perhaps a wholesome change has been the let-up in the description of new dermatologic entities. Apparently the unknown seas of dermatology have been pretty well charted out, despite the fact that the ambition of every dermatologist is to discover or describe a new dermatosis. I would not imply that there have been no new observations in our midst. As soon as our attention is called to a condition we immediately find similar cases. Witness the rediscovery of pellagra in this part of the world, of acrodynia, granuloma inguinale, epidermophytosis, erosio interdigitalis —to mention a few of the more recent discoveries. Greater energy has been shown during the last decade in the investigation of the etiology of the well-known skin disorders, and less attention paid to finer histologic study. Kyrle's new work on the "Histobiology of the Skin" emphasizes the tendency to get away from pure morphology. More accurate ideas on etiology will bring a greatly needed simplification of our nomenclature and a better classification. Such papers as the recent one of Engman and Weiss, in grouping together the erythema group of skin eruptions, is a step in the right direction. An effort to internationalize dermatologic names would be most welcome. It would obviate such acrimonious, now historic, discussions on the identity or non-identity of pityriasis rubra pilaris and lichen ruber acuminatus. Textbooks still contain many obsolete names that are only of historical interest. Simple terms like tuberculid should replace the many confusing synonyms that are found in the literature.

Change in Dermatologic Material. The last decade, according to my observation, has witnessed a gradual change in the type of dermatologic material that comes to us, and a decided revision of our diagnostic concepts. Perhaps my impression of the frequency of various skin diseases seen in private practice is based on faulty premises, but I feel certain that changes in the mode of life and habits of our population, particularly in their external contacts, along with improved hygienic conditions, dietetic habits and possibly a gradual change in climatic conditions, have been the responsible factors. For instance, I have noticed a tendency for the recurrences in old-standing psoriatics to become milder—a circumstance due, I believe, to our stressing the importance of sunshine as a prophylactic, to dietetic restriction, and perhaps to our less rigorous climate. Pityriasis rosea, which we formerly associated with the spring and autumn seasons, is becoming far more prevalent and is seen at all times of the year and in all classes of society. Its mode of dissemination and etiology are as little known as ever. Lichen planus appears to be on the increase—the stress and strain of modern life, the increased tension due to living in a "world on wheels," I believe may account for this. The neurodermatoses, Brocq's conception of which has been so ably presented to us by Wise, have certainly multiplied. Formerly it was our custom to diagnose a neurodermatitis located at the nape of the neck as an eczema nuchae, or that found in the elbow bends as a flexural eczema. The disseminated type so often seen in association with bronchial asthma, hay fever, or due to some protein sensitization, we formerly classified as eczema nervosum. In fact, the entire group of concepts designated "eczema" has undergone a marked restriction, and eczema

*Presidential Address before the Annual Meeting of the Chicago Dermatological Society, January 20, 1926.

as a diagnosis is disappearing. As a clinical condition, implying a catarrhal inflammation of the skin, it has not diminished. No up-to-date dermatologist denies the impossibility of differentiating, clinically and pathologically, an eczema and dermatitis—and in the minds of some of our Eastern colleagues their identity has been amply proven. Here in the West we still find that eczema is a real and baffling problem and constantly before us. Infantile eczema, or dermatitis if you prefer, appears to be diminishing in severity and frequency, possibly because of improved methods of infant feeding and hygiene, or due to the fact that these cases are looked upon as belonging more legitimately to the province of the pediatrician. There has been, to my mind, a tremendous increase in the number of dermatoses due to external irritants of chemical, physical or botanical origin. Witness the fact that at each of the last two sessions of the American Medical Association there has been a discussion on the harmful effect of cosmetics on the skin. The recent questionnaire on the occurrence of dermatoses from dyed furs, garments, hair dyes, and so forth, is also of significance. A bizarre and unusual type of external irritant was exemplified by the epidemic of Japanese lacquer dermatitis that came to our attention in the early days of the popularity of Mah Jong. Greater care on the part of manufacturers has eliminated that disorder. The list of occupational dermatoses is also becoming a long one, as a perusal of Prosser White's latest edition will show. We are constantly seeing cases of procain dermatitis in dentists, formaldehyde dermatitis in physicians and nurses, anilin dye and paraphenylendiamin dye poisoning, to mention but a few of the long list.

Newer Medicinal Eruptions. A new and interesting group of medicinal eruptions has made its appearance. Notable for their variety and frequency are the arsphenamin examthems. Our experience at the Cook County Hospital with the exfoliative type has been unusually large. In six years there have been close to fifty cases, of varying severity. Of great interest are the fixed exanthems produced by phenolphthalein and antipyrin. These peculiar bluish, macular eruptions were undoubtedly diagnosed as erythema perstans before we recognized their nature. I have also observed several cases of urticaria caused by the over-ingestion of phenolphthalein preparations. Among the more recently introduced drugs which may produce diverse eruptions should be mentioned phenobarbital, medinal, adalin, cincophen, pyramidon, and others. (Wise and Parkhurst.)

Newer Mycotic Skin Diseases. In the group of mycotic skin diseases there have been many notable changes. Ten years ago it was not uncommon for us to label a tinea cruris as an erythrasma, although we now know that the Microsporon minutissimun is not found in this part of the world. The old term "eczema marginatum" has been abandoned since the epidermophyton inguinale has been identified as the etiological factor in this disease. Tineal infection of the feet has become almost an epidemic among our male population. The ubiquitous epidermophyton seems to be generously planted around our golf clubs, shower baths, swimming pools, athletic clubs and gymnasiums, and at least 25 per cent. of our male adults become infected at one time or another. C. J. White has recently reviewed the entire literature on this subject and emphasizes the widespread and varying eruptions produced by this organism. It does not seem improbable that it may be a normal inhabitant of the human skin in various localities, and under the influence of heat, moisture, sweat and unhygienic conditions becomes pathogenic. It appears to be most active in hot weather. In former years these cases were classified as "parasitic eczema." Today they are variously called "eczematoid ringworm," "epidermophytosis," or simply "phytosis." The other types of ringworm are still seen more commonly in dispensary practice, although I have recently seen several cases of trycophyton infection of the glabrous skin contracted from animals. Our knowledge of the various types of ringworm fungi found in this country, their cultural and immunologic reactions, has been greatly increased by the observations of Hodges, Weidman, Klauder, Greenbaum, Hopkins, Mitchell, and others. The discovery of tricophytids —eruptions produced by the toxins of the organism, or possibly as the result of treatment, is comparatively recent. Even the existence of epidermophytids and microsporids is being reported. Dyshydrosis is another diagnosis seldom made today, since mycelia are found in the roofs of the vesicles in a large proportion of cases. The type of yeast infection in this part of the

country is changing. Blastomycosis is less common and rarely becomes systemic. In six years we have observed only one systemic case at the Cook County Hospital. On the other hand, our interest in pathogenic yeasts has been stimulated by their identification in cases of erosio interdigitalis, in paronychias and intertrigos. An interesting experimental observation is that of Jessner and Kleiner. They obtained positive cultures of yeasts (sprosspilze) from 59 per cent. of 150 patients from scrapings of normal nails. With these apparently saprophytic organisms they reproduced erosive lesions in the interdigital spaces by scarification and maceration of the skin in a large percentage of cases. These observations show that possibly many harmless fungi may be cultivated from the skin which, under favorable conditions, become pathogenic.

Altered Character and Course of Syphilis. The syphilitic material that comes to the dermatologist has undergone a perceptible change. Someone has already referred to the early skin eruptions of syphilis as "vanishing lesions." They surely are vanishing in private practice, and even primary lesions have become rare in the better classes of population. On the other hand, the proportion of extragenital chancers is more nearly approaching that of the genital type. In clinics and dispensaries, and on the venereal service of the Cook County Hospital, there has been no decrease in the number of genital lesions of all kinds. The explanation of this condition of affairs is easily found. The syphilitic material among the poor and middle classes has gradually shifted to dispensaries, clinics and semipublic institutions. In private practice we see principally late cases, asymptomatic cases, with or without positive Wassermann reaction, visceral and neurosyphilitic types, and occasionally tertiary skin lesions. Finger has offered an interesting biological hypothesis to account for the altered course that syphilis is presenting today. No longer does syphilis run its course as a "skin disease" with predominating cutaneous, mucous membrane and osseous lesions, as it did in the latter part of the 19th Century, when the chronic, intermitent mercurial treatment was in vogue. Since 1910 the picture of the disease has changed. Late nodular, ulcerative and destructive gummatous skin lesions have become a rarity in patients treated with modern arsphenamin therapy. On the other hand, tabes, paresis, and aortitis, in other words, visceral syphilis, has become the predominant late type of the disease. Finger explains this not by assuming special neurotropic and dermatotropic strains of spirochetes, as certain American investigators have done, but as being the result of modern arsphenamin therapy. He stresses the importance of the skin as a protective and immunizing organ, and thinks that the proliferation of the specific virus in the skin may protect the individual from later invasion of the central nervous system. Whether Finger's assumption is correct or not cannot be decided without watching for many years the fate of large numbers of patients treated early in the course of the disease, with intensive treatment, according to the modern standards. The great drawback to Finger's argument is the fact that early diagnosis and intensive treatment in the primary stage will give a certain percentage of abortive cures, although we have learned in the last few years to be cautious in our interpretation of "cure," especially in view of Warthin's pathologic data. One good lesson that we have learned is the value of spinal fluid tests in prognosticating the future welfare of our patients.

Dermatology and Internal Medicine. The relationship of dermatology to internal medicine has undergone an interesting transformation as a result of modern investigations. There has come a growing conviction among dermatologists that we must abandon the old Vienna idea of looking upon the integument as quite different from the rest of the body. The important studies on blood chemistry, the demonstration of nitrogen retention in psoriasis, of uricacidemia in many cases of eczema and pruritus, of hyperglycemia in certain skin diseases, have shown the relationship of various dermatoses to changes in the blood stream. In addition, there has been an intensive study of cutaneous sensitization and anaphylaxis in urticaria, eczema, and other skin disorders, of focal infection in lupus erythematosus and alopecia areata, and a large number of observations on the relation of the ductless glands and skin changes—especially pigmentary disorders, scleroderma, hirsutism and vitiligo. The day apparently is at hand when the dermatologist will have to use every modern laboratory aid and method of investigation when confronted with an obscure skin disorder. Even in such a common condition as acne vulgaris a more care-

ful study of the gastrointestinal and endocrine function, including gastric analysis, basal metabolism, stool examinations and a roentgenological study is desirable for scientific accuracy. Cooperation with internists who are better equipped for these diagnostic studies is necessary before rational therapy, which properly belongs to the dermatologist, can be undertaken. In acne rosacea, again, it is my firm conviction that we have looked upon the cutaneous phenomena in too narrow a light. We content ourselves, as a rule, with spiriting the eruption away with local applications, roentgen-ray or quartz light, without considering the underlying causes. I have seen too many patients with acne rosacea succumb to sudden heart attacks to believe that the occurrence of this condition in those past middle life is not a danger signal, an indication of circulatory changes, weakening of the heart muscle, and so on. The assistance of the cardiologist, careful blood pressure estimations—which, in my experience are usually low, and electrocardiographic study are urgently needed in this type of case. Again, it is hardly necessary to point out that the most trivial dermatologic complaint, such as pruritus, may be an early symptom of severe organic disease, diabetes, leukemia, pseudoleukemia, or hyperbilirubinemia due to stasis of bile, even without clinical jaundice. An innocent-looking submammary intertrigo frequently is treated as a local process when a diabetes is the cause. Similarly, the condition known as "burning tongue," so often looked upon as a neurosis, may be the first symptom of pernicious anemia. These are but a few observations to illustrate how carefully the dermatologist must interpret cutaneous phenomena, and how close the relationship is between internal medicine and dermatology. As Highman has stated, the dermatologist of the future may be the internist who knows the skin.

Changed Status of Physical Therapy. In the field of therapy the last decade has witnessed many innovations in the practice of dermatology. As in other fields of medicine there has been a definite shifting to physical and electrical methods of treatment. Roentgenotherapy in skin diseases has become established on a surer and more scientific foundation through the epoch making investigations of Sabouraud and Noiré, Adamson, MacKee, Witherbee and Remer. The greatest fruition of the Coolidge tube and the MacKee formula of treatment has been found in the single dose epilation treatment of ringworm of the scalp. With the old fractional dose this was a hazardous undertaking. I can still look back upon the days when we were treating hypertrichosis with small doses of roentgen-rays, and when practically all dermatoses, more or less empirically were subjected to frequent, repeated doses of roentgen-rays. Today we have at least learned the limitation of the roentgen-ray—we are more strict in defining the indications for treatment, we are more certain and accurate in our dosage and we have learned to avoid the serious late sequelae. The increase in voltage has brought no benefit to the dermatologist, to whom filtration and depth penetration are not of paramount importance. It may be pertinent to inquire whether the results of treatment with the Coolidge tube and modern interrupterless transformers are better than with the older gas tubes and mercury interrupters. The answer to this question will vary. Those who were expert and experienced with the older technic secured marvelous results. I myself have seen results with epithelioma, lupus vulgaris, sycosis and acne that I have not been able to improve upon with the Coolidge tube. In sycosis, for instance, Coolidge therapy, even with the epilating doses, has not been as effective in my hands as repeated short exposures to the softer rays of the gas tubes. Certain forms of eczema, lichen planus and psoriasis seem to me more resistant to Coolidge therapy. Many of us have been unable to verify MacKee's favorable results in the treatment of verruca vulgaris. In epithelioma the massive dose method has not materially improved the percentage of permanent cures. Today we can discern again a tendency among roentgenologists to return to the divided, or saturation, method of dosage. Remembering the biologic fact that the carcinoma cell is in a constant state of cell division, it seems more logical to use broken doses up to the point of saturation in combating malignancy.

The increasing use of radium and its lessened cost has popularized this method of therapy in our practice, and has further displaced the roentgen-ray in many instances. Even with a modest equipment of plaques and tubes, most basal cell epitheliomas, keloids, vascular nevi, verrucae, and a few localized dermatoses can be successfully handled. Direct intratumoral intro-

duction of radium emanation seeds has opened up a new field of therapy in carcinoma of the tongue and mouth.

The actinic or ultraviolet light in the form of the Kromayer and Alpine sun lamps has become a useful adjunct in dermatologic equipment. The indications and limitations of this form of treatment are now matters of common information.

Other useful additions to our physical armamentarium are the electrocautery and surgical diathermy—monopolar and bi-polar, in the destruction of accessible new-growths.

Present-day Treatment of Syphilis. The treatment of syphilis has radically changed since 1910. The prolonged, intermittent mercurial treatment of the last century has been replaced by the intensive arsphenamin therapy of the present day. I can recall the days when an arsphenamin injection was considered almost a major surgical procedure, for which patients frequently were hospitalized. Today the use of neo-arsphenamin in concentrated solution has become a simple office procedure. That the ideal antisyphilitic has not yet been realized is shown by the multiplicity of the arsphenamin preparations on the market, by the many newer mercurial compounds, and by the advent of bismuth therapy. There is still no standardized method of treatment, and there is great difference of opinion among authorities on every phase of the treatment. The treatment of neurosyphilis has shown a bewildering series of therapeutic shifts, beginning with the Swift-Ellis method, the Ogilvie-Fordyce technic, intraspinous mercury, spinal drainage, arsphenamin plus hypertonic salt solution intravenously, and recently tryparsamide and malarial inoculation. From the experimental side Pearce and Brown have recently emphasized again the importance of thoroughly understanding the mode of action of our potent spirocheticidal drugs, and the danger of overwhelming the patient's natural processes of resistance by too intensive therapy. Finger, also, as the result of long-continued observation of patients treated by modern methods, is inclined to doubt the specific action of our modern antisyphilitics, and believes that dietetic and hygienic measures (so-called roborant measures) are being neglected. In his clinic Kyrle has attempted to improve their results by supplementing the usual mercury-salvarsan therapy with nonspecific means—at first by a combination of various fever producing agents, foreign proteins and typhoid vaccine; more recently by malarial inoculation combined with arsphenamin. In several hundred patients with positive biological reactions in the blood and spinal fluid, he secured in a large percentage permanently negative reactions over a two-year period by this means.

Intravenous Therapy. The popularization of the intravenous route has opened up an important method of therapeutic approach. Among drugs that are used in this way we may mention sodium thiosulphate, of great value in preventing and treating the dangerous cutaneous and hepatic complications of arsphenamin therapy; sodium salicylate, which is, unfortunately, of only temporary benefit in psoriasis; the use of sodium chlorid in bromid exanthems, and tartar emetic, and Randall's new antimony compounds in granuloma inguinale. Intravenous mercurochrome has been recommended by Young in furunculosis, erysipelas and other skin infections. I have seen an extraordinary therapeutic result in one case of lichen planus bullosus and have seen improvement in several cases of pemphigus following its use. The hitherto hopeless situation in pemphigus has been vastly improved by the combined use of iron cacodylate and coagulen (Davis treatment). Among other newer remedies insulin has proved of value to us chiefly in the cutaneous complications of diabetes, such as xanthoma diabeticorum, pruritus, and possibly in other skin conditions associated with hyperglycemia. Recently its use has been recommended in leg ulcers. A valuable discovery has been that, by Stokes, of arsphenamin in tuberculids. The treatment of leprosy has been greatly improved by the hypodermic use of the ethyl esters of chaulmoogra oil.

Biologic Therapy. In the field of biologic therapy we have all noticed a lessened interest in specific vaccines in the last decade. Few of us still use vaccines in acne vulgaris, and outside of staphylococcic infections they seem rarely indicated. Instead, nonspecific vaccines and foreign proteins have been added to our therapeusis. The intravenous injection of vaccines, the so-called "shock treatment," is not destined to become popular. The injection of milk, turpentine, peptone and other agents parenterally is thought to stimulate the defensive properties of the body, either by a leukocytosis or mobiliza-

tion of ferments. The last word on this phase of biologic therapy has not been written. The wave of enthusiasm for autoserum therapy has apparently run its course, although a few men still claim that it will inactivate an acute psoriasis and will be of benefit in Duhring's disease.

Conclusions:

1. The present trend of dermatologic investigation has become more etiologic, and less morphologic.

2. A closer relationship to internal medicine is discernible.

3. Fungi and external irritants have assumed greater importance as etiologic factors.

4. Skin diseases of "nervous" origin are apparently on the increase.

5. The character and course of syphilis have changed since the introduction of arsphenamin.

6. Intravenous medication and non-specific therapy have superseded many of the older methods in our practice.

7. Physical therapy presents a changing aspect today.

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LUDWIG'S ANGINA—A REPORT OF 23 CASES*

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The first accurate description of this much-dreaded disease, which was based upon pathological and clinical observations, was made by Ludwig in 1836, although the disease had been recognized and described previously.

The most important modern contribution to the literature of Ludwig's angina was made by Thomas of Philadelphia in 1908, from whose studies I have freely drawn in the preparation of this paper.

"Ludwig's angina is a rapidly spreading cellulitis beginning in the region of the submaxillary salivary gland as a perilymphadenitis and extending to the floor of the mouth and pharynx."[1]

It occurs most frequently in males between the ages of 20 and 30; the primary focus of infection is most commonly some dental or peridental disease, as caries of a lower wisdom or molar tooth, alveolar abscess or infection following extraction; it also follows throat infections, as septic sore throat, Vincent's angina, tonsillitis and peritonsillitis, ulcer of the tongue or floor of the mouth. The exciting cause is invariably the streptococcus, either alone or associated with other bacteria, especially the staphylococcus, but it may be the latter alone.[1]

A consideration of the surgical anatomy of the region involved is important because upon this to a great extent depends the pathology. The floor of the mouth separates the cavity of the mouth from the neck and is formed by the mylo-hyoid and genio-hyoid muscles. The middle constrictor of the pharynx joins with the posterior border of the mylo-hyoid between which lies the submaxillary salivary gland. One-third of the latter lies beneath the mucosa of the floor of the mouth, while the remainder is located in the submaxillary triangle of the neck. The floor of the mouth contains the lingual vein and nerve (the lingual artery lies upon the under surface of the tongue), ranine artery, sublingual salivary gland and duct, and the submaxillary duct. Thomas[1] showed that the connective tissue in the submaxillary fossa is directly continuous with that in the floor of the mouth; this explains the early and constant extension of a submaxillary cellulitis to the sublingual region.

All points pertaining to the pathogenesis and pathology have not yet been solved; in order that this may be accomplished, necropsies should be obtained in all fatal cases. Some of the points in dispute are, 1, Is the pathological process solely a cellulitis? or 2, Is it primarily a lymphadenitis and secondarily a cellulitis? 3, Is the cellulitis situated primarily in the submaxillary or in the sublingual region? and 4, the cause of death.

According to Thomas[1] the bacteria reach the submaxillary lymphatic glands from the primary source of infection through the lymphatics and cause a lymphadenitis and periadenitis with extension into the cellular tissues and the production of a cellulitis. The cellulitis spreads with great rapidity from the region of the submaxillary lymph and salivary gland around the posterior border of the mylo-hyoid to the floor of the mouth. While the submaxillary salivary gland may become secondarily involved, necropsy

*Read before the Quincy Meeting of the Illinois State Medical Society, May 20, 1925, Section on Eye, Ear, Nose and Throat.

1. Thomas, T. T.: Ludwig's Angina, Annals of Surgery, Feb. and March, 1908.

has shown no case in which it was primarily involved.

The submaxillary cellulitis is deep and is limited by the deep fascia which is attached to the mandible and hyoid bone; it, therefore, spreads in the path of least resistance which is posterior to the muscular plane of the floor of the mouth and between it and the submaxillary salivary gland to involve the cellular space of the floor of the mouth. The great majority of cases in the literature confirms Ludwig's observation that the cellulitis originates in the submaxillary region and secondarily involves the sublingual region. Gangrenous destruction in the submaxillary region may occur, as was first noted by Ludwig. It is caused by the increased virulence of the infection, due to the increased tension of the tissues together with interference with the blood supply.

The disease commences as a painful, tender, indurated swelling in the submaxillary region; within 12 to 48 hours, the floor of the mouth becomes raised by an indurated swelling and the tongue is pushed upward and backward against the roof of the mouth; the mucosa of the floor of the mouth may be elevated to the level of the free edges of the lower teeth. Speech and deglutition become difficult; the patient may be able to open the mouth with difficulty. When trismus is present, it is difficult or impossible to properly examine the buccal, pharyngeal and laryngeal cavities. The salivary secretion is markedly increased, causing the saliva to dribble. Dyspnea, insomnia, prostration or delirium may be present. Fever may be present or absent. If both sides of the neck are involved, the pressure symptoms as the result of involvement of the pharynx and larynx are intensified.

Ludwig's angina should not be diagnosed unless there is present a sublingual phlegmon in addition to the submaxillary phlegmon, and the cases in which the phlegmonous process begins in the throat in the immediate vicinity of the larynx should be excluded. In every case, the finger should be introduced between the teeth and by it the swollen, indurated and inflamed floor of the mouth felt. Ludwig's diagnostic points were the woody submaxillary swelling, the hard sublingual swelling forming a ring just within the lower jaw, the sharp limitation of the indurated tissues and the slight or more often lack of involvement of the glands, although the inflammation attacks the connective tissue around the glands.

Submaxillary cellulitis is the only condition that could be confused with Ludwig's angina; in the latter not only a submaxillary cellulitis is present, but also a sublingual cellulitis is present. Therefore, the diagnosis of Ludwig's angina is easy. Submaxillary adenitis and osteoperiostitis of the lower jaw ought not to offer any difficulty in the differential diagnosis.

The prognosis depends upon the time at which surgical treatment is instituted, the earlier the better. Operation should not be delayed until the inflammatory process has reached the larynx or until both sides of the neck become affected. Thomas[1] in a study of the literature of 106 cases found the mortality was 40 per cent. Death was usually due to edema of the larynx or bronchopneumonia and in rare cases to sepsis.

The treatment of Ludwig's angina is surgical and if it is to be successful it must be done early. The objects of surgery are, 1, to relieve the tension of the tissues; 2, to provide an avenue of escape from the tissues of the infecting bacteria and their toxins, and 3, to drain any collection of pus present.

Local anesthesia should be used in these cases because a general anesthetic should never be given to a patient who is dyspneic or who is liable to become dyspneic.

The incision should be made beneath and parallel to the lower jaw over the submaxillary salivary gland; this will freely expose the region of the submaxillary lymphatic glands and will usually locate pus if it is present. However, if there is a collection of pus in the submental region a median suprahyoid incision will evacuate it. If no pus is found, the sublingual region should be investigated; this is done by dividing the mylo-hyoid and searching the cellular spaces of the floor of the mouth. If the original focus of infection is accessible it should be removed if possible as an alveolar abscess drained or a carious tooth extracted. If dyspnea is present, due to edema of the larynx, a tracheotomy but never an intubation should be done.

Of 50 cases admitted to Cook County Hospital where were diagnosed as Ludwig's angina, but 23, or 46 per cent could be classified according to Ludwig's definition. The mortality was 43 per cent. Tracheotomy was done in three cases. The proportion of males to females was 10 to 1;

age ranged from 7 to 56 years, the great majority of the cases were evenly distributed among the third and fourth decade. Bad dental hygiene was by far the most common cause; sometimes it followed extraction of a lower molar. In all of the 23 cases, there were associated a woody phlegmon, in the submaxillary region, swelling of the floor of the mouth and dysphagia. In 33 per cent of the cases, dyspnea was present in varying degrees.

Necropsies were obtained in but two cases of the nine cases that died. In one case, the clinical examination showed a large hard tumor mass situated below the angle of the jaw and a swollen floor of the mouth; necropsy showed a suppurative cellulitis of the right submaxillary triangle with edema of the tissues of the right anterior triangle of the neck and anterior mediastinum. In the other case, no clinical examination was made, as the patient died soon after entering the hospital; necropsy showed edema of the tissues of the neck and chest, phlegmonous lymphadenitis and edema of the glottis.

4100 West Madison Street.

Discussion

Dr. H. C. Ballinger, Chicago: I don't know why I was asked to discuss this paper, as my experience is limited to three cases and, of these three, two did not fill Ludwig's original definition, that is, a cellulitis of the mouth with swelling and a submental swelling. However, the third case was of that type, secondary to carious teeth plus accompanying influenza. This particular case recovered without surgery.

However, I agree with Dr. Yerger when he states that, if you have a case of this kind, early and free incisions should be made, in view of the published mortality of about 40 per cent.

There is one point, however, in etiology which he did not mention, which to me as an etiological factor appears important, and that is the lingual tonsil and some of the adjacent lymphatic structures. It seems to me this would be a prolific source of infection for the tissues of the mouth.

Dr. Chas. M. Robertson, Chicago: Ludwig's angina is one of the most difficult diseases to treat in laryngology. The death rate at 40 per cent is the minimum. I would say that real Ludwig's angina should be placed higher than 40 per cent.

There is one particular thing that we ought to bear in mind in treating Ludwig's angina. It is not a superficial ulceration, an abscess of the tissues near the external part of the body. It is a deep cellulitis, and that has a significant meaning.

I have seen so many cases opened under local anesthesic where the operation was a failure. If you cut less than the deep cervical fascia, you do not reach the abscess, and that is the main reason why you have so many laryngeal complications.

The infection is deep and spreads easily to the deeper tissues, so that, in a true Ludwig's angina, you have to go, in your dissection of the neck, down almost to the mucous membrane of the digestive tract.

In the lesser cases, Ludwig's angina is not, as he would lead us to believe, submental, a little cellulitis. The whole side of the face, the whole side of the neck, is just as solid as a piece of stone.

When you attempt to use a local anesthetic in a cellulitis that is tense, that is filled full of infectious fluid, you can't get a local anesthesia that amounts to anything. Therefore, if you must do a tracheotomy, you should have a general anesthesia, because this means that you are going to dissect the neck clear to the mucuous membrane.

I have had some success in the less severe types in the application of Credé's silver ointment. That is an antiseptic that is absorbed deeply into the tissues. It is applied to the neck on gauze, as thick as you would put on butter, and it is kept there 24 hours a day.

I have seen a few superficial cases of Ludwig's angina with a small amount of fluctuation but containing a surprising amount of pus. But most of these cases are so deep that you don't get fluctuation.

Nearly all the cases I have seen are epidemic cases from the "flu," which are less severe than the cases in which the patient has old, dirty, carious teeth. It may come from a neglected mouth with good teeth, but nearly every case I have seen has been in cases where they have old, deteriorated, loose teeth, and foul mouths.

Of course, you must give the supportive treatment with it, the anti-infectious supportive treatment.

When I am called in and find a Ludwig's angina, I feel almost as helpless as I do if I have meningitis to treat.

Dr. G. C. Otrich, Belleville: The most fatal cases of Ludwig's angina that I have met with in the past years, I believe, have been those following a mixed infection with or following diphtheria.

As a rule, we don't see these cases until the edema is pronounced.

I recall five young women from the ages of 18 to 23 or 24, and operated on three of them, making wide and deep incisions. We did a tracheotomy, also, in three. As I recall, one of them lived.

Dr. Frank L. Alloway, Champaign: A case came to me, and we took an x-ray and found quite an inflammation of the mastoid cells. The patient was operated upon for a mastoiditis. The patient continued to run temperature. Four months afterwards the patient was taken sick again and died.

I called in a consultant just before the death, and he said: "You have a case of Ludwig's angina." Treatment was of no avail.

DO YOU REMEMBER WAY BACK WHEN—

Everybody drank from the old tin cup that hung on the town pump.

A roller towel in the hotel washroom accommodated all comers.

Two thousand people died in Illinois every year from typhoid fever.

The health officer's chief job was to inspect alleys and back yards for garbage and dead animals.

The state board of health existed principally for the purpose of examining and licensing physicians.

There were no chiropractors or osteopaths.

Nobody ever thought of registering a birth anywhere but in the family bible.

Children's diseases were regarded as the angry visitations of a Divine Providence.

Lots of folks thought that a buckeye in the pocket would prevent rheumatism.

Some mothers knew that a red flannel undershirt and a string of asafetida around the neck would protect children from diphtheria and other contagions.

Nearly everybody had smallpox at some time during life. Now you don't and that's probably why you haven't been vaccinated.

Running water in the house, a bath room and a toilet were looked upon as luxuries for the very rich.

Consumption was an incurable disease and folks who had it were advised to go west—which they usually did.

Patent medicines, consisting mostly of alcohol under a trick name, were advertised and sold as a cure for everything from an ingrown toe nail to appendicitis.

The legislature felt that $4,000 or $5,000 was a generous annual appropriation to the state board of health.

Nobody ever suspected that the application of preventive medicine might save the state a heavy institutional expense.

Milk was milk and nobody cared a hang where it came from.

Soothing syrup and pacifiers were standard home remedies for infants.

Sober Brother: "I've come to bail you out."

Drunk Brother (in jail): "You don't—hic—need—to bail me—hic—out, I'm not full."

"What's the matter, old boy?" asked Jimmie's friend. "I've never seen you looking so seedy."

"I've got to go abroad at once," remarked Jimmie gloomily.

"Nonsense! These doctors mustn't frighten you out of your life like that."

"It wasn't a doctor. It was a lawyer."

A druggist can truthfully says that a woman's face is his fortune.—*Charleston Gazette.*

THE RECIPROCITY OF SMILES

By James W. Foley

Sometimes I wonder why they smile so pleasantly at me,
And pat my head when they pass by as friendly as can be;
Sometimes I wonder why they stop to tell me How-d'-do
And ask me then how old I am and where I'm going to;
And ask me can I spare a curl and say they used to know
A little girl that looked like me, Oh, years and years ago:
And I told Mamma how they smiled and asked her why they do,
So she said if you smile at folks they always smile at you.

I never knew I smiled at them when they were going by,
I guess it smiled all by itself and that's the reason why;
I just look up from playing if it's anyone I know,
And they most always smile at me and maybe say Hello;
And I can smile at anyone, no matter who or where,
Because I'm just a little girl with lots of them to spare;
And Mamma said we ought to smile at folks and if you do
Most always they feel better and they smile right back at you.

And when so many smile at me and ask me for a curl,
It makes me think most everybody likes a little girl;
And once when I was playing and a man was going by,
He smiled at me and then he rubbed some dust out of his eye,
Because it made it water so, and said he used to know
A little girl up in his yard who used to smile just so;
And then I asked why don't she now and then he said, "You see—"
And then he rubbed his eye again and only smiled at me.

(Published by E. P. Dutton & Co.)

"Deacon White," said Parson Jackson, softly, "will you lead us in prayer?"

There was no answer.

"Deacon White," this time in a little louder voice, "will you lead?"

Still no response. Evidently the deacon was slumbering. Parson Jackson made a third appeal and raised his voice to a high pitch that succeeded in arousing the drowsy man.

"Deacon White, will you lead?"

The Deacon, in bewilderment, rubbed his heavy eyes and blurted: "Lead yourself—I just dealt!"

SCIENTIFICALLY SPEAKING

O chemist of skill, investigate!
Answer this quiz of mine:
I think I know what Carbonate,
But where did Iodine?

—Lehigh Burr.

Society Proceedings

ADAMS COUNTY

December 14, 1925. This was the regular meeting of the Society held at the Elks' Club with Dr. C. D. Center, President, in the Chair. Thirty-five members were present.

The Secretary made a motion that the minutes of the November meeting be approved as published in the *Bulletin*. They were approved with the exception of a slight correction concerning that which Dr. Koch had said concerning the opening of the Venereal Clinics by the Quincy Public Health District. Dr. E. B. Montgomery reported for the Library Committee, stating that the books of the Medical Library had been moved to the basement of his office and had been placed in good order, Dr. R. A. Harris having devoted considerable time to this work, and that the books could be consulted by any of our members.

The annual election of officers resulted as follows: President, Dr. C. A. Wells; first vice-president, Dr. Pollock; second vice-president, Dr. J. H. Bloomer, treasurer, Dr. J. A. Koch; secretary, Dr. Harold Swanberg; medico-legal member, Dr. Ralph McReynolds; board of censors, Dr. W. E. Davidson; library committee, Dr. R. A. Harris; assistant secretary, Dr. Harris.

At this time the President asked Drs. Ericson and Bitter to escort the newly elected President to the Chair and Dr. Wells took the Chair. Dr. Wells, after thanking the society for the confidence they had placed in him by electing him to the office of President, proceeded to take up the new business for the coming year. The Secretary asked what the members wished to do about the *Bulletin* for the coming year and stated that the society for the last two years had given $100 for the publishing of same. Dr. Bitter made a motion that the society contribute $100 for publishing the *Bulletin* for the coming year. Seconded and carried. Dr. Ericson made a motion that the Secretary be given an Honorarium of $50.00 for his services during the past year. Seconded and carried. The Secretary called the attention of the membership to the fact that the State Capital Tax for the coming year would be raised to $8.00, and, in view of that, what were the wishes of the members in regard to the dues for the coming year? Dr. Ericson made a motion that the dues for 1926 be placed at $12.00 per member. Seconded by Dr. A. H. Bitter, and carried without a dissenting vote. The Secretary then asked whether or not the members wished to hold a social meeting in January, as they had done heretofore. Dr. Knox made a motion that the January meeting be a social meeting and that same be in charge of the 1925 Entertainment Committee. Seconded and carried. Dr. Wells requested that the case report of Dr. Aldo Germann be read at the next regular meeting.

The meeting adjourned about 10:40 p. m.

HAROLD SWANBERG, M.D., Secretary.

January 11, 1926. This was the annual social meeting of the society held at the Elks' Club, the meeting being called to order at 8:15 p. m. with the President in the Chair. Thirty-three members and three guests were present.

Mr. George Govert, L.L.B., of Quincy, gave an interesting talk on Medico-Legal matters. It was discussed very freely by the membership. Many questions were asked Mr. Govert on many phases of the relation of law to medicine. Dr. Homer Mead of Augusta, Ill., was introduced and gave a short address on matters of medical interest. Dr. Mead has the distinction of having graduated in medicine at the University of Iowa in 1867 and is said to have been graduated from a medical college longer than any other physician in the state of Illinois. Dr. Center made a motion that we extend Mr. Govert a rising vote of thanks for addressing the Society. Following the above, the meeting was turned over to the Chairman of the Social Committee, Dr. A. H. Bitter, who stated that a buffet luncheon had been prepared for those present and everyone proceeded to enjoy a general social gathering.

HAROLD SWANBERG, M.D., Secretary.

ALEXANDER COUNTY

The society met in regular monthly meeting at the Halliday Hotel, Cairo, Ill., Dec. 22, 1925; seventeen of the twenty-one members present. President Dr. B. S. Hutcheson called the meeting to order. After roll call and reading of the minutes of the last meeting, the following officers were elected for 1926: President, J. E. Woelfle; vice-president, F. K. Rossen; secretary and treasurer, B. S. Hutcheson; censor, Chas. L. Weber; delegate, W. F. Grinstead; alternate, Jas. S. Johnson.

It was voted to make the dues for the year $10.00 in view of the fact that the State Society dues had been increased to $8.00 per year.

After the business the society adjourned to the Blue Room of the Halliday Hotel where a splendid banquet had been prepared. Dr. S. B. Carey acted as toastmaster and presided with his usual eloquence and wit. Dr. G. H. McNemer gave a unique address entitled "Words."

After short talks by both the retiring president and the president-elect several of the members responded to toasts, some with splendid yarns and others with more serious thoughts referred to the good that is accomplished through organizations and fellowship derived from medical societies.

It was agreed by all present that it was one of the most enjoyable of our annual meetings.

JAS. S. JOHNSON, Secretary.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, January 6, 1926

1. Thirty-five Years' Experience with Pneumococcus Pneumonia—Robert B. Preble. Discussion—Theodore Ticken, James B. Herrick.

2. The Management of the Simple Anemias in General Practice—Charles Spencer Williamson. Discussion—Prof. Hugh A. McGuigan, Dept. of Pharmacology; Robert W. Keeton, University of Illinois.

Joint Meeting Chicago Medical Society and Irving Park Branch, Jan. 13, 1926

1. The Diagnosis of Vertebral Lesions—E. J. Berkheiser. Discussion by C. A. Parker and A. H. Montgomery.

2. Artificial Pneumothorax in Pulmonary Tuberculosis—P. S. Winner. Lantern slides. Discussion by Robert H. Hayes and Ethan A. Gray.

3. Insulin in General Practice—A. C. Hammett. General Discussion.

Regular Meeting, January 20, 1926

1. The Technique and Interpretation in Cholecystography by the Oral Method—Wm. H. Stewart, New York, N. Y. Discussion—Ed. S. Blaine, Robert Arens.

2. Surgery of Gall Bladder Disease—W. J. Mayo, Rochester, Minn. Discussion—Allen B. Kanavel, A. E. Halstead.

3. Medical Aspects of Gall Bladder Disease—Joseph L. Miller. Discussion—Chas. L. Mix.

Joint Meeting Chicago Medical Society and Chicago Dental Society, January 27, 1926

1. "Teamwork for the Health of the People"—William D. Haggard, President American Medical Association.

2. "A Dental Educational Program"—Sheppard W. Foster, President American Dental Association.

KANKAKEE COUNTY

The regular January meeting of the Kankakee County Medical Society was held Jan. 14, Dr. N. T. Stevens, Clifton, Ill., presiding, with twenty-three members present.

Following the regular routine of business Dr. Carl D. Davis, Chicago, Ill., addressed the meeting on the subject of "Surgery of the Large Bowels." Followed by free discussion. After which the doctors and their wives participated in an oyster supper, followed by cards.

SANGAMON COUNTY

The regular meeting of the Sangamon County Medical Society was held January 7, 1926, in the new Abraham Lincoln Hotel. At this time the following officers were elected for the ensuing year: President, Herbert B. Henkle; vice-president, George J. Mautz; secretary-treasurer, Robert H. Woodruff; Board of Censors, C. V. McMeen, Homer P. McNamara and James A. Day; delegate to state meeting, John J. McShane and A. C. Baxter; alternate delegates, C. P. Colby and Henry Aschauer; Legislative Committee, M. G. Owen, Percy L. Taylor and Don Deal; Medico-legal Committee, Harry C. Blankmeyer.

The society closed the year with 116 members.

We had the pleasure of hearing a very interesting and instructive talk by Miss Keller of the Lay Educational Committee. Suitable resolutions covering the death of Dr. Lewis Cass Taylor were read and spread upon the minutes.

R. H. Woodruff, Secretary.

Marriages

Herman L. Horwitz, Chicago, to Miss Rose Suzanne Mishlove of Ripon, Wis., Nov. 12, 1925.

John Otis Cletcher, Tuscola, Ill., to Miss Jessie Irene Wilson of Flushing, Ohio, January 26, 1926.

Personals

Miss Maud Slye addressed the Chicago Council of Medical Women, January 26, on "The Inheritability of Cancer."

Dr. Elven J. Berkheiser has been appointed attending orthopedic surgeon to the Children's Memorial Hospital.

Dr. Harry C. Moss, Carbondale, has been appointed acting division surgeon of the St. Louis Division of the Illinois Central Railroad.

Dr. Charles W. Pfeiffer, Quincy, was elected president of the staff of St. Mary's Hospital at the annual election, Dec. 30, 1925.

Drs. Peter Bassoe and George B. Hassin addressed the Chicago Neurological Society at the Palmer House, January 21, on "Brain Changes in General Paresis Treated with Tryparsamide."

Dr. Roy Grinker addressed the Chicago Society of Internal Medicine, January 25, on "Pernicious Anemia, Achylia Gastrica and Combined Cord Degeneration."

Edwin O. Jordan, Sc.D., professor of bacteriology, University of Chicago, gave a lecture

in Orchestra Hall, January 11, under the auspices of the president and trustees of the university, on "The Conquest of Disease."

Dr. Irving F. Stein of Chicago addressed the January meeting of the Vermilion County Medical society on "The Use of Radiography in Gynecology."

Dr. Malcolm T. MacEachern is in New Zealand studying in hospitals of that country and Australia; he will attend the International Hospital Conference and the annual meeting of the New Zealand Branch of the British Medical Association in February, and return to the United States in April.

Dr. Esther Loring Richards, associate professor of psychiatry, Johns Hopkins University Medical School, Baltimore, addressed the fifteenth annual meeting of the Infant Welfare Society of Chicago, January 27, at the Palmer House, on "Child Behavior."

Professors Anton J. Carlson and Arno B. Luckhardt of the physiology department, University of Chicago, have been elected foreign members of the Deutsche Akademie der Naturforscher, Halle, Germany; founded in 1652. This society has had among its foreign members Charles Darwin, Thomas Huxley, Louis Agassiz and S. J. Meltzer.

About $6,000,000 will ultimately be given to charitable and educational institutions under the will of the late Dr. Norman Bridge, an inventory of which was filed in probate court, January 4. The estate, on the death of the widow, is to be divided equally between the University of Chicago for medical education, the University of Southern California Medical Department, the Barlow Sanatorium Association of Los Angeles, the Southwest Museum Incorporated, Los Angeles, and La Vina, a sanatorium in Pasadena; each of the five institutions, it is reported, will receive about $1,200,000. There were ten $10,000 bequests also, among others to Northwestern University, University of California and the Chicago Home for Incurables.

On the evening of January 26, Dr. Wm. O. Krohn addressed the Fort Wayne Medical Society and members of the bar on "The Criminal Mind." On December 10, he gave an address in New York City before the Circumnavigators, of which Chief Justice Taft is president, on "The Wild Man of Borneo." Recently Dr. Krohn spoke before the Milwaukee Neurological Society and the Milwaukee Academy of Medicine in joint session on "The Psycho-Neuroses in Their Medico-Legal Significance"; also to the staff of the Great Lakes Hospital on "Differentiation of the Psycho-Neuroses from Paresis in Its Early Stages"; and to the staff of The American Hospital on "The Physician in Court."

News Notes

—The Illinois Masonic Hospital, Chicago, has let contracts for a seven-story addition to cost $200,000.

—Ground has been broken for the erection of a four-story addition to the American Hospital, Irving Park Boulevard and Broadway.

—State inspectors visited Sterling, January 5, to inform the chiropractors that unless they secured a license, court action would be started against them, the result was that chiropractors E. O. Oltmans, C. A. Stout, and Williams and Williams have closed their offices in Sterling.

—The regulations for the control and prevention of pneumonia in Illinois have been completely revised by the state department of health; copies of the new rules have been placed in the hands of local health officers. The new regulations can be obtained on request to the board at Springfield.

—Dr. Don V. Poindexter, Greenville, was sentenced, January 4, it is reported, to serve one year and a day in the federal penitentiary at Fort Leavenworth, Kan., after having pleaded guilty to a charge of violating the Harrison Narcotic Law.

—The Chicago Tuberculosis Society met, January 14, at the Edward Hines, Jr., Hospital (Speedway), Roosevelt Road near Maywood. There was an inspection of the hospital beginning at 4:30; roentgen-ray demonstrations at 5:30, dinner at 6:15, and a symposium by the staff of the hospital at 7:30.

—Passavant Hospital will build a new home, costing one and a half million dollars, on the McKinlock campus of Northwestern University on the lake front near Chicago Avenue; the site has been given to the hospital by the university

for ninety-nine years; one-third of the beds of the new institution will be set aside for Northwestern University Medical School for clinical instruction.

—Dr. Ray Lyman Wilbur, president of Stanford University and formerly President of the American Medical Association, will address the Chicago Association of Commerce at a luncheon, February 17, at the Hotel La Salle on "Health, a Business Asset." Reservations for physicians should be made with the Chicago Medical Society, 25 East Washington Street. Tickets, $1 per person.

—Dr. John J. Abel, Johns Hopkins University Medical School, Baltimore, gave the sixth Pasteur lecture before the Institute of Medicine of Chicago, January 22, at the City Club, on "Some Thoughts and Experiments in Relation to the Hormones." There was an informal dinner preceding the meeting. The previous Pasteur lectures were delivered by Graham Lusk, D.Sc., Dr. Theobald Smith, Dr. Jacques Loeb, Dr. Otto Folin, and Dr. William H. Howell. The next meeting of the institute will be February 26.

—Provisional figures issued by the state health director indicate that the death rate of tuberculosis in 1925 in Illinois was 79 per hundred thousand population, a decline of two points from the previous year, and the seventh successive annual decline in the death rate in this state. Dr. Rawlings said that this drop began almost simultaneously with the "stupendous" eradication campaign that is going on, at a cost of more than $15,000 a day. Most of that sum goes to the thirty-one sanatoriums, which operate at an annual outlay of about $3,500,000; another million goes for testing cattle for tuberculosis. The death rate from tuberculosis in 1918 was 134, in which year 8,402 persons died; last year 5,508 deaths were attributed to tuberculosis. The decline in the tuberculosis death rate is regarded as justifying a campaign of eradication that is said to have no parallel in the history of the state.

—Following the passage of an ordinance creating a board of health for Chicago, January 13, the mayor submitted the names of Mr. A. A. Sprague, commissioner of public works, Mr. Francis X. Bush, corporation counsel, Mr. Morgan A. Collins, chief of police, Mr. Frank Doherty, building commissioner, and Mr. Joseph F. Connery, fire commissioner, and the council confirmed the appointments. The board will act, the mayor said, in a judicial and advisory capacity to the commissioner of health, whose authority is not to be abridged by the ordinance. The action taken is said to have resulted from the health commisisoner's campaign to provide the city with milk from non-tuberculous cows by April 1; it is to prevent the state from defeating the commissioner's plan. Representatives of the state on the recently appointed milk commission are said to insist that there should be a delay with regard to the requirement that no milk shall enter the city from tuberculous cows.

—An examination will be held by the American Board of Otolaryngology in Dallas, Texas on Monday, April 19, 1926, and in San Francisco, California on Tuesday, April 27, 1926. Application should be made to the Secretary, Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Missouri.

—The Annual Meeting of the stockholders of the Chicago Eye, Ear, Nose and Throat College was held in the College Building Friday, January 8, and the following officers for the ensuing year were elected: Dr. W. A. Fisher, president; Dr. H. B. Woodruff, vice-president, Dr. O. B. Nugent, secretary.

—At a recent meeting of the Michael Reese Ex-Interne Alumni Association, the following officers were elected for 1926: president, Dr. Irving F. Stein; vice-president, Dr. Edwin Hirsch; treasurer, Dr. Jerome F. Strauss, and secretary, Dr. Ralph Reis.

—The Vermilion County Medical society is operating its own credit rating and collection bureau. Three employees give full time to this work. The first two years work will show collections of over $25,000 of old accounts turned in by the members. A rating list is furnished to the members which contained over 2,500 names of poor credit risks in the county. The work of the bureau has made a definite increase in all medical incomes by the elimination of loss on bad accounts. A 24-hour rating service is maintained.

—The eighth annual meeting of The Western Physiotherapy Association will be held in Kan-

sas City, April 15 and 16, under the presidency of Dr. A. David Willmoth of Louisville, Ky. The sessions will be held in the beautiful Hotel President, Fourteenth and Baltimore Avenue, Kansas City's newest hostelry. Members of the association attending this meeting will find it convenient to reserve their rooms in the President Hotel, and all be quartered under the same roof. Reservations should be made early. Eastern members will find it convenient to stop over in Kansas City en route to the A. M. A. at Dallas, which meets the following week. The Western School of Physiotherapy will hold its sessions in the same hotel, beginning April 8 and continuing until April 14. Full information and prospectus may be obtained from the Secretary, Dr. Chas. Wood Fassett, 115 East 31st Street, Kansas City, Mo.

—The Chicago Orthipedic club elected the following officers at its annual meeting in January: Henry B. Thomas, president; H. B. Moore, vice-president; Philip Lewin, secretary-treasurer.

Deaths

Philip William Otterbein Baer, Bardolph, Ill.; Jefferson Medical College of Philadelphia, 1885; member of the Illinois State Medical Society; aged 67; died, Dec. 31, 1925.

William George Bechtold, Breese, Ill.; Missouri Medical College, St. Louis, 1884; died, January 6, at St. Elizabeth's Hospital, Belleville, of cerebral hemorrhage.

Paschal G. Caspian, Chicago; Harvey Medical College, Chicago, 1904; a Fellow, A. M. A.; aged 70; died, January 8, of injuries received when struck by an automobile.

Thomas Francis Daly, Chicago; Barnes Medical College, St. Louis, 1899; a Fellow, A. M. A.; aged 51; died, January 8, of pulmonary tuberculosis and bronchopneumonia.

A. W. Foreman, White Hall, Ill. (licensed, Illinois, 1888); Civil War veteran; aged 85; died, Dec. 31, 1925.

Charles Gordon Fuller, Chicago; Chicago Homeopathic Medical College, 1881; a Fellow, A. M. A.; formerly on the staff of the Evanston (Ill.) Hospital; aged 69; died, January 17, at Pass Christian, Miss., of heart disease.

Leonard Lee Gill, Caseyville, Ill.; Bellevue Hospital Medical College, New York, 1886; member of the Illinois State Medical Society; formerly on the staff of the Blessing Hospital, Quincy; aged 63; died, Dec. 28, 1925.

Herman Armin Klein, Chicago; Jenner Medical College, Chicago, 1899; College of Physicians and Surgeons, Chicago, 1907; on the staff of the Alexian Brothers Hospital, where he died, January 11, of gangrene of the gallbladder, aged 59.

Thomas Henry Lewis, Chicago; Chicago Medical College, 1896; a Fellow, A. M. A.; on the staff of St. Luke's Hospital, where he died, January 16, of bronchitis, aged 53.

Lemuel L. Long, Toulon, Ill.; Jefferson Medical College of Philadelphia, 1883; aged 73; died, January 14, of heart disease.

Louis Joachim Marnitz, Chicago; Bennett Medical College, Chicago, 1912; member of the Illinois State Medical Society; aged 58; died, Oct. 14, 1925, of cerebral hemorrhage and arteriosclerosis.

Everett S. Matthew, Divernon, Ill.; St. Louis College of Physicians and Surgeons, 1885; member of the Illinois State Medical Society; aged 63; died, January 4, of cerebral hemorrhage.

Francis Edwin Melugin, Thomson, Ill.; Long Island College Hospital, Brooklyn, 1879; a Fellow, A. M. A.; Civil War veteran; aged 79; died, Dec. 23, 1925.

George Philip Miller, Oak Park, Ill.; Rush Medical College, Chicago, 1903; a Fellow, A. M. A.; formerly on the staff of the Robert Burns Hospital; aged 46; died, Dec. 28, 1925, of chronic myocarditis, chronic nephritis and hypertension.

Arnold Frederick Mueller, McHenry, Ill.; Milwaukee (Wis.) Medical College, 1908; member of the Illinois State Medical Society; served in the M. C., U. S. Army, during the World War; aged 39; died, Dec. 31, 1925, at Sheboygan, Wis., of pneumonia.

Charles W. Prettyman, Chicago; Medical Department of Columbia College, New York, 1888; aged 72; died, Dec. 16, 1925, of carcinoma.

Jessie E. Robertson, Chicago; Hahnemann Medical College and Hospital, Chicago, 1886; aged 63; was found dead in bed, January 10, of heart disease.

Thomas Weston Thomson, Knoxville, Ill.; Rush Medical College, Chicago, 1903; aged 52; died, Oct. 5, 1925, at Los Angeles, of endocarditis.

Ulysses N. Thornton, Leland, Ill.; Trinity Medical College, Toronto, Ont., Canada, 1887; aged 60; died, Dec. 13, 1925, of cerebral hemorrhage.

Reuben Woods, Quincy, Ill.; Bellevue Hospital Medical College, New York, 1866; Civil War veteran; aged 89; died, Dec. 9, 1925.

Flora Matina Tanquarry Brian, Bellmont, Ill., College of Physicians and Surgeons, Chicago, 1904; aged 40; died, in St. Mary's Hospital, Evansville, Ind., December 9, 1925, from injuries received in an automobile accident.

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